CITY OF FAIRFIELD

RESOLUTION NO. 2016 - 127

RESOLUTION OF THE CITY COUNCIL AUTHORIZING THE CITY MANAGER TO EXECUTE AN AGREEMENT BETWEEN THE CITY OF FAIRFIELD AND CAL ENGINEERING & GEOLOGY FOR GEOTECHNICAL PEER REVIEW AND CONSULTATION SERVICES AND ESTABLISHMENT OF AN OPEN PURCHASE ORDER FOR THOSE SERVICES

WHEREAS, the City requires the services of Geotechnical Peer Review services for various development projects; and

WHEREAS, Cal Engineering & Geology has submitted their Statement of Qualifications and staff is satisfied that they are qualified to perform such services; and

WHEREAS, the term of the agreement shall be for three years from the effective date of the contract, with the ability to extend the agreement for two additional one year terms upon mutual consent of CONSULTANT and CITY's Public Works Director.

NOW, THEREFORE, THE COUNCIL OF THE CITY OF FAIRFIELD HEREBY RESOLVES:

Section 1. The City Manager is hereby authorized and directed to execute on behalf of the City of Fairfield, the agreement with Cal Engineering & Geology for Geotechnical Peer Review and consultation services and establishment of an open purchase order for a not to exceed amount of $50,000 per year.

Section 2. The City Manager is hereby authorized to implement the above-mentioned agreement.

PASSED AND ADOPTED this 17th day of May 2016, by the following vote:

AYES: COUNCILMEMBERS: PRICE/TIMM/~~BERTANI~~/MOY/VACCARO

NOES: COUNCILMEMBERS: NONE

ABSENT: COUNCILMEMBERS: Bertani

ABSTAIN: COUNCILMEMBERS: NONE

MAYOR

ATTEST:

CITY CLERK

pw

CONSULTANT SERVICES AGREEMENT

Geotechnical Peer Review and Consultation

THIS AGREEMENT is made at Fairfield, California, as of 13 April, 2016, by and between the City of Fairfield, a municipal corporation (the "CITY") and CAL ENGINEERING & GEOLOGY ("CONSULTANT"), who agree as follows:

1) SERVICES. Subject to the terms and conditions set forth in this Agreement, CONSULTANT shall provide to the CITY the services described in Exhibit "A," which consists of the proposal submitted by CONSULTANT. CONSULTANT shall provide said services at the time, place, and in the manner specified in Exhibit "A."

2) PAYMENT. CITY shall pay CONSULTANT for services rendered pursuant to this Agreement at the times and in the manner set forth in Exhibit "B." The payments specified in Exhibit "B" shall be the only payments to be made to CONSULTANT for services rendered pursuant to this Agreement. CONSULTANT shall submit all billings for said services to the CITY in the manner specified in Exhibit "B."

3) FACILITIES AND EQUIPMENT. CONSULTANT shall, at its sole cost and expense, furnish all facilities and equipment which may be required for furnishing services pursuant to this Agreement.

4) GENERAL PROVISIONS. The general provisions set forth in Exhibit "C" are part of this Agreement. In the event of any inconsistency between said general provisions and any other terms or conditions of this Agreement, the provisions set forth in Exhibit "C" shall control.

5) INSURANCE REQUIREMENTS. The insurance requirements set forth in Exhibit "D" are part of this Agreement. In the event of any inconsistency between said general provisions and any other terms or conditions of this Agreement, the requirements set forth in Exhibit "D" shall control.

6) EXHIBITS. All exhibits referred to herein are attached hereto and are by this reference incorporated herein.

7) TERM. This term of the agreement shall be for three years from the effective date of the contract, with the ability to extend the agreement for two additional one year terms upon mutual consent of CONSULTANT and CITY's Public Works Director.

EXECUTED as of the day first above-stated.

City of Fairfield, a municipal corporation

By: _____
David A. White
City Manager

CONSULTANT (CAL ENGINEERING & GEOLOGY)

By: _____

Exhibit A

STATEMENT OF QUALIFICATIONS

AS-NEEDED GEOTECHNICAL ENGINEERING AND ENGINEERING GEOLOGY SERVICES

4 FEBRUARY 2016

Prepared for
City of Fairfield
Department of Public Works – Engineering
1000 Webster Street
Fairfield, California 94533

Prepared by
Cal Engineering & Geology
1870 Olympic Boulevard, Suite 100
Walnut Creek, California 94596

CE&G
CAL ENGINEERING & GEOLOGY
Pragmatic Expertise

CE&G
CAL ENGINEERING & GEOLOGY

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Walnut Creek
California 94596

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Fax: 925.935.9773
www.caleng.com

4 February 2016

City of Fairfield, Department of Public Works - Engineering
Attention: James Paluck, P.E., Senior Civil Engineer
1000 Webster Street
Fairfield, California 94533

RE: Request for Statement of Qualifications
As-Needed Geotechnical Engineering and Engineering Geology Services

Dear Mr. Paluck:

Cal Engineering & Geology, Inc. (CE&G) is abundantly qualified to provide geotechnical engineering and engineering geologist services to the City of Fairfield, carrying on the high standards and pragmatic expertise we have provided to cities, counties, and other public agencies throughout the Bay Area since 1993. Specialties include peer review, slope stability, earth retention and retaining wall design, and public infrastructure repair design.

Benefits to hiring CE&G:

- *Peer Review Experts* – CE&G knows how to work with public agency staff, other geotechnical firms and stakeholders. CE&G's solid professional reputation with agencies and in the industry has earned us the role of respected peer reviewers.
- *Local (Fairfield and Solano County) experience* – CE&G's professionals draw on Fairfield peer review experience since 1994. We are familiar with local geotechnical conditions, and with addressing them on the full range of typical public works agency projects.
- *On-Call Services Experts* – we have been providing on-call services to various public agencies continuously since 1993. CE&G's depth of staffing allows for timely response, and flexibility.
- *Reputation for Pragmatic Expertise* – CE&G focuses on solving problems, and understands what it takes for the applicant, City, and peer reviewer to achieve a successful project. We are experienced in advising cities on planning, open space, and GHAD issues.
- *Nearby Offices* – CE&G's Walnut Creek offices are a short drive from Fairfield, providing flexibility.

Respectfully submitted,

CAL ENGINEERING & GEOLOGY, INC.

G. Reid Fisher, Ph.D., P.G., E.G.
Principal Geologist

Phillip Gregory, P.E., G.E.
Senior Principal Engineer

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Peaceful Glen Road Emergency Repair

1. Qualifications and Experience

At a Glance

Cal Engineering & Geology (CE&G) provides geologic, geotechnical, and related civil engineering consulting, design, testing, and inspection services to both public and private sector clients. CE&G was founded in 1993 in Walnut Creek and has since expanded to include offices in Walnut Creek, San José, and Oakland and an AMRL (AASHTO) accredited soils and materials testing laboratory. Our clients include numerous cities, counties, water and flood control districts, special districts, and schools throughout the East Bay and the greater Bay Area. Full time staff now includes five registered geotechnical engineers, and three certified engineering geologists, civil engineers, CADD/GIS specialists, and lab and field technicians.

The Essentials

Company:

Cal Engineering & Geology, Inc.

Main Office Performing Work for Fairfield

1870 Olympic Boulevard., Suite 100
Walnut Creek, California 94596
(925) 935 – 9771

San José Office

6455 Almaden Expressway, Suite 100
San José, California 95120
(408) 440 – 4542

Oakland Office & Laboratory

119 Filbert Street
Oakland, California 94607
(510) 451 – 2350

Laboratory Certifications:

- AASHTO Materials Reference Laboratory
- Army Corps of Engineers
- DSA certification in progress

Areas of Specialization

Conventional Geotechnical Services

Like most geotechnical firms, CE&G provides conventional geotechnical consulting services, such as investigation, testing, and inspection services. Projects have ranged from consultations regarding small pavement rehabilitation projects to complete geotechnical investigation, reports, and construction services for large municipal buildings and other capital improvement projects. Services for these projects are generally led by our senior level geotechnical engineers and/or engineering geologists.

Unique Geo/Civil Design Services

Unlike many geotechnical firms, CE&G also has full design capabilities including preparation of ready-for-public bidding plans, specifications, and estimates for projects relating to geo/civil structures (such as earth retaining systems, creek stabilization and erosion control, pavements, bridges, trenchless installations, and storm drain improvements). Because of our experience preparing full PS&E for geotechnical-related municipal projects, all of our key project personnel are very comfortable working with the engineering design and construction staffs of our public agency clients.

Over 90% of CE&G's RFI responses simply refer the contractor to the location of the answer within the plans and specs.

GEOHAZARDS

CE&G's ability to characterize, understand and analyze various geohazards pays off in cost-effective, innovative, and pragmatic hazard mitigation. Our professionals are experienced in the full range of field mapping, exploration, and in situ testing techniques for characterizing geohazards including seismic hazards, slope stability, erosion, and liquefaction and related phenomena.

CE&G complements its field characterization methods by excelling in a range of analytical techniques, including liquefaction/lateral spreading; limit equilibrium slope stability analyses, seismic displacement analyses, and finite element modeling of settlement, seepage, stability, and seismic displacement. Finally, the experienced engineers at CE&G apply their deep understanding of a wide variety of both conventional and innovative remedial measures for addressing the identified hazards.

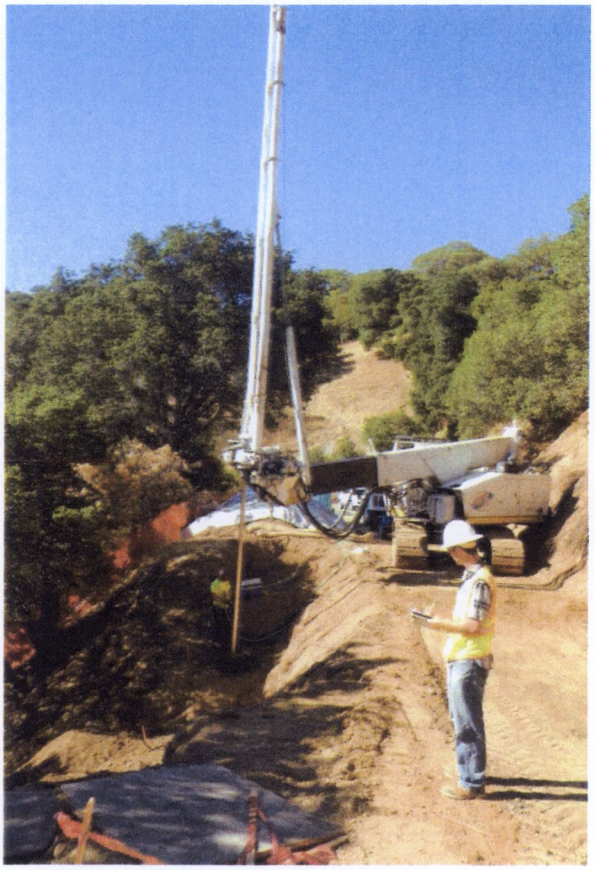
PEER REVIEW SERVICES

Since 1993, the senior professionals at CE&G have been providing geological and geotechnical peer review services for a wide range of projects including residential and commercial land development and redevelopment, planning studies, and third party public infrastructure projects. Services provided as part of the geotechnical review process typically include: review of geotechnical reports and studies, field reconnaissance and meetings with project applicants' design teams, meetings with city or county permitting staffs, and preparation of peer review memoranda, letters, and reports.

CE&G also provides other related services such as grading ordinance development and planning ordinance review.

TESTING AND INSPECTION

CE&G provides a range of geotechnical laboratory testing, special inspection, and construction observation and testing services with a specialization in grading, concrete placement, and overall construction quality assurance services. All testing is performed by certified technicians, and overseen by licensed professional engineers. These services support our own in-house projects and are also provided to clients such as geotechnical consultants, construction managers, public agencies, and contractors.



Pile Drilling Observations

Emergency Response

Emergency services are routine for the staff at Cal Engineering & Geology. After El Niño years of 1997-1998, 2000-2001, and 2005-2006, emergency geotechnical engineering services were provided to our municipal clients, including the City of Fairfield, through our professional engineering contracts.

In the event of oncoming severe weather conditions, we will also be available to work with clients to plan and implement emergency response activities. With our in-house digital reference capabilities, we are able to download and review published geologic maps and reports within minutes of being contacted.

Skyline Boulevard Emergency Landslide Repair, Oakland

New Emergency Response Phone APP

In our endless effort to provide our clients with better and timelier service, CE&G has recently launched a new smart phone APP called CE&G NOW! After downloading our APP, our clients can quickly contact us with just a few touches of a button should a geotechnical emergency arise such as flooding, a road failure, or a landslide. The APP automatically identifies the user's location, and then prompts for contact information, descriptions of the problem, and even provides an option to upload site photos. Messages are delivered directly to CE&G personnel who are on-call 24/7 to respond to our client's needs. The APP is currently available for Android phones and for iPhones.

CE&G has been successful in assisting several of our clients in meeting with Cal EMA, FEMA, or FHWA personnel to assess damage, and immediate and long term funding needs. Because of our experience we can rapidly develop cost of repair estimates that can be used to initiate funding assistance requests and then follow those up with more detailed engineer's estimates as repair projects progress.

Forensic Engineering

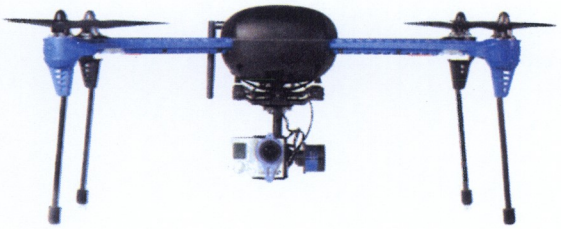
CE&G provides comprehensive investigations of structures and properties damaged by landslides, expansive soils, fill settlement, earthquakes, wind, storm damage, adverse drainage conditions, flooding from pipe leaks, moisture vapor intrusion, and construction-induced vibrations.

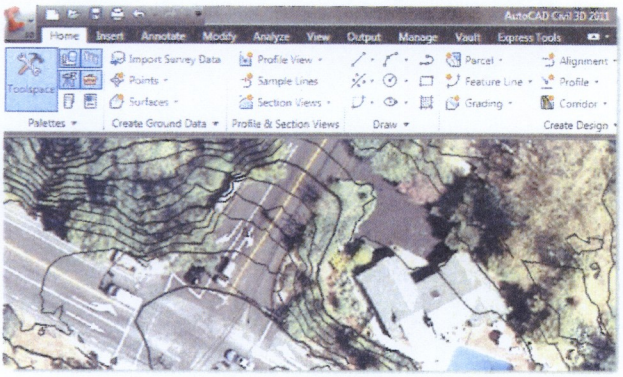
Napa Earthquake Damage

Depending on the nature of the project, CE&G can provide site reconnaissance observations and photo-documentation, floor level surveys, field mapping, historical aerial photo analyses, subsurface exploration, laboratory testing, site instrumentation and monitoring, plans and specifications for repairs to damaged properties, construction observations, and special inspection and testing.

Pragmatic Innovation

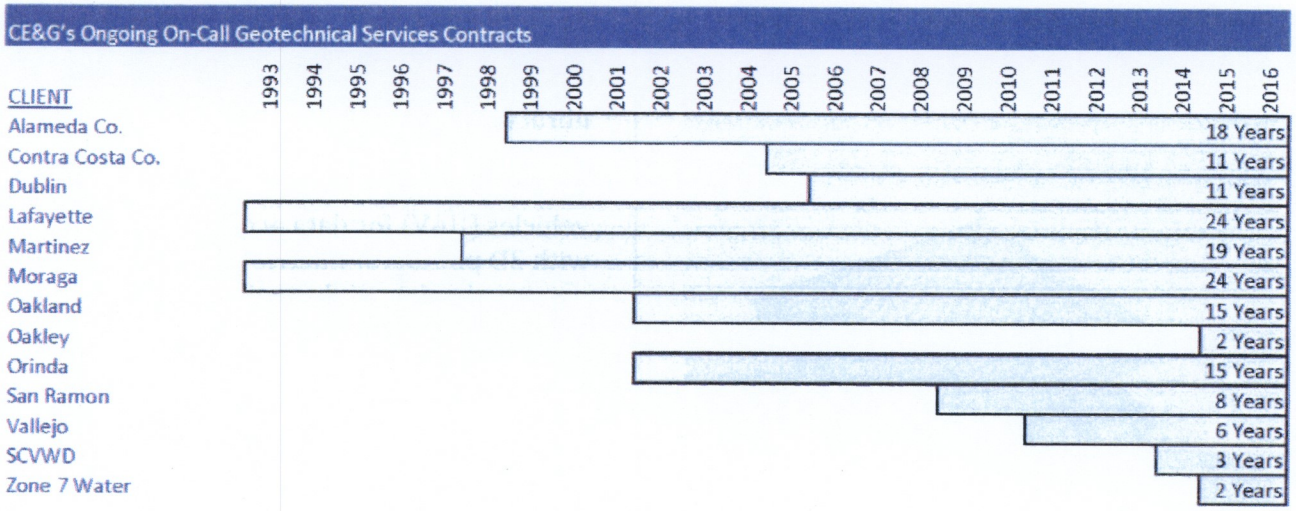
While we can rely on 23+ years of local experience, CE&G is more importantly a forward-looking company that implements innovative and burgeoning technologies. CE&G's professionals utilize the latest Autocad and ARCGIS software along with a wide variety of analytical, modeling, and design computer programs and rely on a vast library of technical publications, maps, and historical aerial photographs. CE&G has embraced the use of unmanned aerial vehicles (UAV) for data acquisition together with 3D photogrammetric software Pix4D to process the data and provide a more efficient means of assessing and monitoring sites. Our professionals continue to embrace new ideas and technologies, but remain aware of potential pitfalls of unproven methods and products. We call this practice *Pragmatic Expertise.*





On-Call Municipal Clients

CE&G has been providing comprehensive on-call geotechnical engineering to many local Bay Area municipalities since 1993. CE&G is currently and/or has previously provided formal and informal on-call services to:



Project Managers and Key Staff

Fairfield's project managers can rely on the CE&G team's personal experiences with public works projects of various sizes to overcome challenges of complex projects. CE&G key technical staff are well educated, well qualified, and locally experienced professionals. Each is a high integrity individual who abides by the ASCE Code of Ethics. Continuing professional development is a requirement of our engineers and geologists and it is embraced. Resumes are included in *Section 5*.

Following is a table of CE&G's key staff education and summary descriptions of the background, experience and qualification of each key individual.

SUMMARY OF CE&G TECHNICAL STAFF EDUCATION		
Eli Zane	**BS**	19 CEU courses
Reid Fisher	**BS, PhD**	(CEU info unavailable)
Phil Gregory	**BSCE, MSCE**	30 CEU courses
Mitch Wolfe	**BS, MS**	9 CEU courses
Chris Hockett	**BSCE, MSCE**	31 CEU courses
Dan Peluso	**BS, MS**	16 CEU courses
Dave Buscheck	**BS**	11 CEU courses

ELI ZANE, P.E., G.E.

Contract and Project Manager

Mr. Zane will serve as the contract and project manager and will be the primary point of contact for the City. He has experience preparing PS&E and geotechnical design reports, and providing construction observations and testing. He has expertise in reinforced earth structures and retaining walls, monitoring of slope movement using inclinometers, and slope stability analysis. He is a registered civil engineer and geotechnical engineer with 11 years of professional experience.

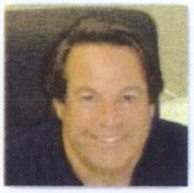
G. REID FISHER, PH.D., P.G., C.E.G.

Principal Geologist/Peer Review Lead

Dr. Fisher's primary areas of expertise are: aerial photographic analysis for routing and siting of facilities; regional seismotectonic investigations; site-specific structural fault studies; geomorphic analysis and slope process studies to characterize slope instability (landsliding); and geologic and seismic hazards evaluation in support of land planning studies. Reid's project work for City of Fairfield includes peer review starting in 1994; landslide and fault investigations; FEMA levee recertification; planning consultation; and legal consultation. His recent projects include a geologic assessment for seismic retrofit of Calero and Guadalupe Dams in Santa Clara County, slope stability analysis and repair for Nelson Road Landslide in Santa Cruz County, and peer review projects for San Juan Bautista and Martinez. He provides consultation and peer review services in the greater San Francisco Bay area on various projects. Reid is a certified engineering geologist with 34 years of professional experience.

PHIL GREGORY, P.E., G.E.

Senior Principal Engineer/Technical Review



Mr. Gregory is an experienced geotechnical engineer and project manager who has managed numerous geotechnical related infrastructure projects. He has technical expertise in the analysis and design of slope stabilization measures including geosynthetic reinforced slopes and embankments, CIDH pile structures, and segmental block and soil nail retaining structures. Phil's recent projects include peer review for the Wallis Ranch subdivision in Dublin and technical review for several road improvement projects in Walnut Creek. Mr. Gregory is a registered civil and geotechnical engineer with more than 30 years of professional experience.

MITCH WOLFE, P.G., C.E.G.

Principal Geologist

Mr. Wolfe will provide peer review and site characterization support. Mitch's expertise and experience include engineering geology project management, and review of large hillside mass grading projects involving over 10 million cubic yards of earth over the past decade. Some of his recent peer review project experience includes geologic inspections for the Moller Ranch and Wallis Ranch hillside development projects for the City of Dublin. Mr. Wolfe is a registered

professional geologist and engineering geologist with over 35 years of experience.

CHRIS HOCKETT, P.E., G.E.

Associate Engineer, Lead Design Engineer

Mr. Hockett has expertise in preparation of geotechnical data and design reports for the construction of municipal structures and in preparation of plans, specifications, and engineer's estimates, (PS&E). Chris also has experience designing CIDH pile retaining walls, mechanically reinforced embankments, segmental retaining walls, and tieback retaining walls. His recent projects include the management, design, and value engineering for two retaining walls in San Quentin Village for a sidewalk improvements project, and management of the Petersen Road Full Depth Reclamation project for Solano County. Mr. Hockett is a registered civil and geotechnical engineer with 12 years of experience.

DAN PELUSO, P.E., G.E.

Associate Engineer/Lead Geotechnical Consultant

Mr. Peluso will serve as Lead Geotechnical Consultant. He has successfully managed and planned small and large transportation and flood control projects. Dan's experience includes providing on-call geotechnical services to the City and County of San Francisco and project management and geotechnical recommendations for the Clayton Regency Water Pipeline. He also has extensive peer review experience, including numerous projects for the City of Fairfield. For the past year Dan has been the lead geotechnical engineer for CE&G's San Jose office. Mr. Peluso is a registered civil and geotechnical engineer with 30 years of professional experience.

DAVE BUSCHECK, P.E.

Associate Engineer, Inspections Manager & General Construction Expert

Mr. Buscheck will manage the laboratory soils testing and engineering and testing during construction services for each project. He is a civil engineer and general contractor, with over 20 years of experience, who has designed and inspected scores of infrastructure improvement projects throughout the Bay Area. His expertise is in construction cost estimating, damage assessment, and repair design for a variety of structures. Some of his recent projects include providing special inspection services for a commercial development project at Foothill Square in Oakland and an embankment stabilization project for the Hayward Area Recreation District. Dave has recently been providing emergency response services to the City of Oakland as part of CE&G's on call services contract.

Relevant Project Experience

CE&G has completed numerous projects for cities and other public agencies in the Bay Area. The following list of projects and descriptions is a sampling of our experience. We have also included summary project tables with CE&G personnel who provided services for each project.

TRANSPORTATION PROJECTS

PEACEFUL GLEN ROAD, VACAVILLE, CALIFORNIA
SOLANO COUNTY

Cal Engineering & Geology was retained to complete a geotechnical investigation and design stabilization measures for a 200 foot segment of Peaceful Glen Road adjacent to Sweeney Creek which had been undermined by progressive lateral migration of the creek. The project was included as an emergency repair to an already planned 800 foot long road widening project for Solano County. The project required geologic mapping, review of aerial photos, subsurface investigation, testing, and analysis to determine the limits of instability and design parameters. Design calculations for a tiered Ultra Block retaining wall were prepared for the county which prepared PS&E for the project. ***The project was completed within a four week schedule required by the County.***

PETERSEN ROAD FULL DEPTH RECLAMATION, SOLANO COUNTY, CALIFORNIA
SOLANO COUNTY

Cal Engineering & Geology completed geotechnical explorations and managed Full Depth Reclamation (FDR) along Petersen Road between Walters Road and the Travis Air Force Base for the Travis Air Force Base Southgate Access Improvements Project. Petersen Road in the vicinity of the planned improvements is a mile-long, two-lane rural road located north of Highway 12 that trends in an east-west direction and provides access between Walters Road and the south entrance to the Travis Air Force Base. The road also provides access to a sports complex, the Suisun City Public Works Service Center, and several private parcels. The project consisted of reconstructing the asphalt concrete pavement and widening of the roadway by approximately 20 feet. The County wanted to recycle as much existing asphalt concrete road surface and road base as was feasible to reconstruct the existing portion of Petersen Road. Full depth reclamation (FDR) of the existing roadway was used to reconstruct the existing road and enabled recycling of 100 percent of the existing asphalt concrete and road base material to create a stabilized base material that was topped with hot mix asphalt. The south side widening of Petersen Road was constructed by conventional methods using lean concrete base and hot mix asphalt. CE&G was selected through a competitive RFP process to also provide geotechnical engineering services during construction.

SF BAY TRAIL – CARQUINEZ SCENIC DRIVE, MARTINEZ TO PORT COSTA, CALIFORNIA
EAST BAY REGIONAL PARK DISTRICT

CE&G provided a geotechnical investigation, preliminary civil design and planning services for the conversion of the 1.7 mile long abandoned section of Carquinez Scenic Drive between Ozol and Port Costa in Contra Costa County. The section of the road, which was being studied, was abandoned by the county in 1983 following the development of several large landslides which made the road impassable. CE&G's scope included an initial geotechnical investigation with 14 exploratory borings, laboratory testing, geologic mapping, preparation of a preliminary geotechnical report, a supplemental geotechnical investigation with an additional 26 exploratory borings, preparation of a design and materials report in Caltrans format, a Design Alternatives Report, and PS&E. Repairs consisted of tieback retaining walls, geogrid reinforced embankments, stabilization piles, and soldier beam and lagging walls.

PAVEMENT REHABILITATION, MOUNTAIN VIEW, CALIFORNIA
CITY OF MOUNTAIN VIEW

Cal Engineering & Geology completed geologic and geotechnical subsurface exploration and pavement design for pavement rehabilitation projects along Velarde Street, Peacock Avenue, and Elsie Avenue. The project consisted of reconstruction of the existing curbs, gutters and asphalt pavement along segments of the three streets. Following completion of the exploratory drilling and laboratory testing program, geotechnical design parameters were developed for the proposed improvements, and pavement structural sections were designed. CE&G presented four design alternatives to mitigate the high plasticity clay subgrade without lime treatment and provided specifications for the desired alternative.

PAVEMENT REHABILITATION, PITTSBURG, CALIFORNIA
CITY OF PITTSBURG C/O TRANSYSTEMS

Under severe time constraints, CE&G prepared a geotechnical report for the overlay and reconstruction of portions of Power Avenue and California Avenue in Pittsburg, California. The client requested that the geotechnical report be provided within four weeks of the initial phone call. The purpose of this project was to conduct a subsurface exploration and provide pavement design recommendations for design and construction of the fast-tracked pavement rehabilitation project. Soils testing and analyses were completed in our in-house laboratory within three days of completion of the subsurface investigation. CE&G developed geotechnical design recommendations for preparation and compaction of the pavement subgrade, mitigation options for high plasticity clay subgrade soils, and recommendations for minor cut and fill earthwork operations. ***The project was completed on budget within the requested four week time frame.***

WATER PROJECTS

HENNESSEY CREEK IMPROVEMENTS, FAIRFIELD, CALIFORNIA
CITY OF FAIRFIELD

CE&G completed a geotechnical investigation to develop design parameters and construction recommendations for the concrete lined channel and reinforced concrete box culvert which included geologic research, exploratory drilling, and laboratory testing. CE&G engineers oversaw design of the reinforced concrete channel walls, a concrete drainage inlet for normal flow conditions, and a 40 foot long reinforced concrete box culvert for flood conditions.

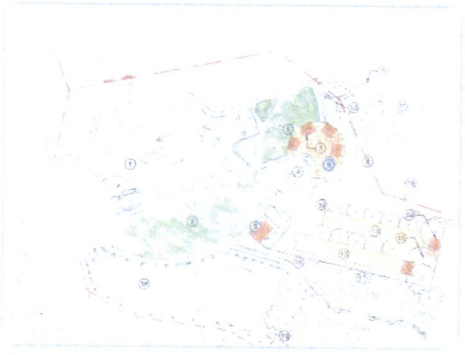
LAGUNA CREEK EMERGENCY CULVERT REPAIR, MORAGA, CALIFORNIA
TOWN OF MORAGA

Cal Engineering and Geology conducted a geotechnical investigation and prepared plans, specifications, and estimates (PS&E) for the repair of 96 inch diameter corrugated steel pipe culvert inlet and outlet structures after they failed during a winter storm. The plans for the federally funded project consisted of removing and replacing the existing headwall, endwall, and wingwalls to their pre-disaster condition and the incorporation of rock slope protection placed on the creek bed to reduce the potential for undermining of the new structures. CE&G also proposed a conceptual green alternative for the outlet structures in which the failed structures would be replaced with a rock slope protection embankment vegetated with willow pole cuttings above a splash pool. This alternative provided habitat for the California Red Legged Frog and reduced the conceptual cost of the downstream repair to approximately 35% of the original cost to restore the site to its pre-disaster condition.

PARK PROJECTS

HIDDENBROOKE PARK, VALLEJO, CA
CITY OF VALLEJO

In accordance with our on-call agreement for engineering and testing services for the City of Vallejo, CE&G in conjunction with subconsultants LCC, Vallier Design Associates, and LSA Associates provided surveying, civil engineering, and landscape architecture services to the City of Vallejo for construction of the Hiddenbrooke Park Project. The park project included construction of pervious parking lot, open lawn for informal play, prefabricated restroom building, 1/2 basketball court, picnic tables with shade structures, a water play area, multi-age play areas, bocce courts, an equestrian parking area, and open space trails. The project was designed to meet C3 requirements with no allowable runoff from the site. CE&G was the prime consultant for the project in charge of project management and coordination with subconsultants for providing surveying, a unit plan, and PS&E for the 2 acre, $1.5 million project.



MORAGA COMMONS BRIDGE AND TRAIL, MORAGA, CA
TOWN OF MORAGA

Cal Engineering & Geology was retained by the Town of Moraga to complete a siting study, and geotechnical investigation, and to prepare plans, specifications, and estimates for a new 140 foot long prefabricated steel bridge to be constructed over a tributary of Laguna Creek. The bridge was needed to connect an under-utilized area of the Moraga Commons Park to the East Bay Regional Park District's (EBRPD) Lafayette-Moraga Trail. The project was funded entirely with State of California grants for public parks.

A geologic reconnaissance of the creek banks in the vicinity of the EPRPD trail and the park was conducted to complete a siting study. A site topographic survey was completed for the area and the final locations of the bridge abutments and length of the bridge were determined. A geotechnical exploration of the selected abutments locations was completed and a geotechnical design memorandum prepared. CE&G then prepared PS&E for installation of the prefabricated bridge, and construction of the associated pathways, lighting, and other appurtenances.

CE&G provided technical support with regard to the required environmental permitting through California Department of Fish and Game and the Regional Water Quality Control Board. CE&G also provided overall project management and construction administration.

BUILDINGS

LAFAYETTE LIBRARY AND LEARNING CENTER, LAFAYETTE, CALIFORNIA
CITY OF LAFAYETTE ENGINEERING

Cal Engineering & Geology was the geotechnical consultant for the design and construction of the $30+ million dollar State of The Art facility. Geotechnical services included completion of a geotechnical exploration report for design of the new 40,000 square foot facility and engineering and testing during construction.

The facility includes an underground garage, a three level library and community center building, amphitheater, and outdoor garden. The services provided by CE&G included extensive collaboration with the project architect and landscape architect during both design and construction. Design began in 2003 and construction was completed in late 2009. The geotechnically challenging site included highly variable subsurface conditions across the 1.2 acre site. Deep colluvial soils and high groundwater conditions required the use of drilled and cast in place piles for portions of the building while a conventional spread footing foundations was utilized in areas where sedimentary bedrock was less than 10 feet below grade.

LAFAYETTE COMMUNITY CENTER MANZANITA ROOM, LAFAYETTE, CALIFORNIA
CITY OF LAFAYETTE DPW

Cal Engineering and Geology completed a subsurface exploration for construction of the new Manzanita Building located at the Lafayette Community Center. The project consisted of providing foundation recommendations for the new prefabricated steel building located adjacent to Las Trampas Creek. Additionally CE&G evaluated the minimum creek setback requirements outlined in the Lafayette Municipal code and determined previously repaired creek segments that encroached on the minimum requirements could be exempt.

PEER REVIEW PROJECTS

ALHAMBRA HIGHLANDS SUBDIVISION, MARTINEZ, CALIFORNIA
CITY OF MARTINEZ

CE&G conducted a geotechnical and geologic peer review for a residential development in Martinez. Services included site reconnaissance, review of geotechnical reports and historical aerial photos, preparation of review letters and comments, and review of grading plans.

FALLON VILLAGE GEOTECHNICAL REVIEW, DUBLIN, CALIFORNIA
CITY OF DUBLIN

After several years of controversy involving previous geotechnical peer review consultants, the city engineer of the City of Dublin turned to Cal Engineering & Geology to provide an independent third party review of the planned Fallon Village Development project in the east Dublin hills. CE&G met with the developer's geotechnical consultant and the City to understand the scope of the project from a geotechnical perspective and then completed a geotechnical peer review of planned mass grading for the development which was to be completed over several years. Based on the review, the scope of remedial grading and monitoring of deep fills at the site were revised and grading permits were issued. During the mass grading operations for the project, CE&G has been providing special geological observations on behalf of the City. The geologic observations have been focused on confirming subsurface conditions during grading and reviewing during-grading modifications proposed by the developer's geotechnical consultant. Grading has taken place over several years and includes over 8 million cubic yards of earthwork and repair of numerous large ancient bedrock landslides in a hillside environment. After the completion of the project, a Geologic Hazard Abatement District (GHAD) will be created. CE&G has reviewed the proposed Plan of Control and Engineer's Report which will form the basis of the GHAD formation and provided detailed recommendations to the City regarding suggested changes to the those documents prior to their approval and adoption.

PALOS COLORADOS GEOTECHNICAL REVIEW, MORAGA, CALIFORNIA
TOWN OF MORAGA

Since 1993, CE&G has been deeply involved in the geotechnical and geologic review of the controversial Palos Colorados subdivision project in the Moraga hillsides east of downtown. The project site is subject to significant landsliding, erosion, and expansive soil conditions. Initially conceived as a 250+ single family residential subdivision with a rambling 18 hole championship golf course, the current project which was approved in 2012 is limited to just over 125 homes without a golf course.

Over the 23 year development process, CE&G has reviewed at least six versions of grading and development plans and the accompanying corrective grading plans. CE&G was involved in planning and zoning issues as they have related to the Moraga Open Space Ordinance and testified in front of the Town Planning Commission and Town Council on many occasions. The project will eventually be incorporated into a still to be formed Geologic Hazard Abatement District and CE&G has been tasked to assist the Town staff in reviewing the GHAD formation documents. CE&G is currently completing review of the final grading plan and corrective grading plans and the project is slated to begin construction in 2016 or 2017.

FARIA RESERVE PEER REVIEW, SAN RAMON, CALIFORNIA
CITY OF SAN RAMON

CE&G completed the geologic and geotechnical review of the initial geotechnical report and preliminary remedial grading plan prepared for the proposed Faria Preserve project. The planned hillside development will include a mixed-use residential development with both single-family and multi-family homes, a recreational park, a water tank site, and associated roadways. CE&G's geotechnical peer review work has included examination of the report for pertinent information regarding the technical feasibility of the project, review of published geologic reports and maps, site reconnaissance, and preparation of an official review document complete with technical review comments and requests for additional investigation and study. The geologic challenges of the site include numerous large landslides and a mapped trace of the Calaveras fault. Grading at the site will require cuts up to 90 feet deep and fills up to 130 feet thick. The multi-family homes and the recreational park are planned for the western portion of the property while the single-family lots are planned to be located north of the main access road in the vicinity of the mapped fault trace.

Following the completion of the initial review, CE&G has worked closely with the City and the project applicant's consultants to complete review of updated and phased corrective grading plans, slope stability analyses, retaining wall designs, and the geotechnical aspects of grading and improvement plans. Construction of the project will be phased over at least two years and began in earnest in late 2015.

DUBLIN RANCH, FALLON VILLAGE, WALLIS RANCH, MOLLER RANCH, PEER REVIEWS, DUBLIN, CALIFORNIA

CITY OF DUBLIN PUBLIC WORKS

CE&G was retained to provide an independent third party geotechnical and geologic review of three planned residential development projects in the east Dublin hills. All were multi-year, major residential subdivisions with multi-million cubic yards of hillside earthwork. During the mass grading operations for the project, CE&G provided special geological observations on behalf of the City. Grading took place over several years and included over 8 million cubic yards of earthwork and repair of numerous large ancient bedrock landslides in a hillside environment. After the completion of the project, a Geologic Hazard Abatement District (GHAD) was created. CE&G reviewed the proposed Plan of Control and Engineer's Report which formed the basis of the GHAD formation and provided detailed recommendations to the City regarding suggested changes to those documents prior to their approval and adoption.

5 CANYONS SUBDIVISION GEOTECHNICAL REVIEW, CASTRO VALLEY, CALIFORNIA

ALAMEDA COUNTY PUBLIC WORKS AGENCY

From 1993 to 1999 CE&G provided special geotechnical and geologic peer review and inspection services to Alameda County Public Works Agency for Centex Homes' 800+ home hillside Five Canyons residential development in Castro Valley, California. Services included geotechnical and engineering geologic review of roads, bridges, retaining walls, and mass grading of the project. Mass grading of the tract included over 8 million cubic yards of earthwork and construction of more than 80,000 square feet of mechanically stabilized segmental block retaining walls, landslide repairs, surface water drainage and soil nail retaining walls. CE&G was an active participant in the project partnering process with the County Centex Homes and the civil and geotechnical design consultants. Our strong working relationships with all involved parties resulted in the completion of a high quality product which the County continues to use as a example of how to review and implement large residential grading projects.

PEER REVIEW PROJECT NAME, LOCATION, YEARS	TYPE OF PROJECT					CE&G PERSONNEL				
	Hillside - Remedial Grading (> 500K cy)	Major Subdivision - Flat Land w/ Liquefaction	Fault Study Alquist Priolo	Minor Subdiv. Stability Issues	Single Family Home	Phil	Reid	Mitch	Mark	Dan
Hamlin Rd. Custom Home, Lafayette, 2015	✓			✓			✓			✓
Rancho Vista, San Juan Bautista, 2015		✓	✓			✓	✓			
Copperleaf Devel, San Juan Bautista, 2015		✓	✓			✓	✓	✓		
Camp Parks, Dublin, 2014 - present		✓		✓						
Carol Lane CUP, Lafayette, 2014				✓	✓	✓			✓	
Toledo Ct Redevelopment, Lafayette, 2013										
Faria Preserve, San Ramon, 2013 - present	✓			✓	✓	✓	✓			
Heritage Park, Dublin, 2013-2014		✓	✓			✓		✓		
Moller Ranch, Dublin, 2012-present	✓					✓	✓	✓		
Redgwick Subdivision, Dublin, 2012				✓		✓		✓		
Tassajara Highlands, Dublin, 2013-present	✓					✓		✓	✓	
Orinda Oaks, Orinda, 2012-2013				✓		✓		✓		
Branigan Subdivision, Dublin -2014-2015								✓	✓	
Wallis Ranch, Dublin, 2012-2015	✓					✓		✓		
Schaeffer Ranch, Dublin, 2011	✓					✓		✓		
Boundary Creek, Castro Valley, 2003-2008										
Dublin Ranch, Dublin, 2006-2009	✓			✓		✓		✓		
Bonderson Estate, Sunol, 2001	✓					✓		✓		
EBMUD South Loop PL, Castro Vly, 1999-2003	✓									
Alhambra Highlands, Martinez, 1998-2006	✓					✓		✓		
Palos Colorados, Moraga, 1995-present	✓					✓		✓		
5 Canyons, Castro Valley, 1993-1998	✓					✓		✓		
Fieldcrest Subdivision, Fairfield, 2003-2006	✓		✓				✓			✓
Rancho Solano Subdivision, Fairfield, 2000-2003	✓			✓			✓			✓
Paradise Valley Subdivision (K1, K2, I, L and GHAD), Fairfield, 2003	✓			✓			✓			✓

Peer Review Table continued	TYPE OF PROJECT					CE&G PERSONNEL				
PEER REVIEW PROJECT NAME, LOCATION, YEARS	Hillside - Remedial Grading (> 500K cy)	Major Subdivision - Flat Land w/ Liquefaction	Fault Study Alquist Priolo	Minor Subdiv. Stability Issues	Single Family Home	Phil	Reid	Mitch	Mark	Dan
Sanctuary Subdivision, Fairfield, 2001	✓	✓		✓			✓			✓
Eastridge Hills Subdivision, Fairfield, 2004	✓		✓	✓			✓			✓
Colony Subdivision, Fairfield, 2003				✓			✓			✓
Lower Mangels Subdivision, Fairfield, 2002	✓	✓		✓			✓			✓
Edgewater Subdivision, Fairfield, 2002			✓	✓			✓			✓
Solano Foothills Subdivision, Fairfield, 2002	✓			✓			✓			✓
Hidden Meadow Subdivision, Fairfield, 2004	✓		✓	✓			✓			✓
Siena Subdivision, Fairfield, 2002	✓	✓		✓			✓			✓
Creekside Subdivision, Fairfield, 2003	✓	✓	✓	✓			✓			✓
Cordelia Heights, Fairfield, 2003			✓	✓			✓			✓
Southbrook 10, Fairfield, 2003	✓	✓	✓	✓			✓			✓
Providence Walk Subdivision, Fairfield, 2003	✓	✓		✓			✓			✓
FEMA Reviewer (Public Assistance Repair Proj's)				✓						✓
City of Morgan Hill (multiple fault investi's)			✓	✓	✓		✓			✓
City of Morgan Hill (multiple hillside projects)				✓	✓		✓			✓
Town of Woodside (multiple fault investi's)			✓		✓		✓			
Town of Woodside (multiple hillside projects)				✓	✓		✓			
City of Healdsburg (multiple fault investi's)			✓	✓			✓			
City of Healdsburg (multiple hillside projects)				✓	✓		✓			
City of Oakland (post-fire multiple projects)				✓	✓		✓			
City of Hayward commercial			✓				✓			
City of San Carlos (multiple hillside projects)				✓	✓		✓			
City of Fremont (multiple commercial)		✓		✓			✓			✓
City of Fremont (multiple hillside)				✓			✓			✓
Town of Los Gatos (multiple hillside)				✓			✓			✓

Road Project Name, Location, Date	Description	CE&G Personnel						
		Phil	Chris	Mitch	Reid	Mark	Dave	Eli
Mines Rd Bridge Fndn Repair, Alameda Co, 2014-present (p)	Investigation	✓	✓					✓
Patterson Pass Rd. Improvements, Alameda Co, 2013-present (s)	Geotechnical studies for planned improvement projects	✓	✓	✓		✓		
Crow Canyon Rd. Safety Study, Alameda Co, 2013-present (s)	Geotechnical studies for planned improvement projects	✓	✓				✓	
Levee Bay Trail Rehab, Cupertino 2014-present (s)	Design for levee erosion protection and surface trail paving, ESDC and testing	✓	✓				✓	✓
Peterson Rd FDR Pavements, Solano Co, 2014-2015 (p)	Design of full depth reclamation pavement resurfacing and widening, ESDC	✓	✓					✓
Bay Trail George Miller Segment, Martinez/Crockett 2002-2013(p,s)	Preliminary design studies and design level geotechnical investigation and report	✓	✓	✓			✓	
Tassajara Rd. Widening, Contra Costa Co 2012-2013 (p)	Design level geotechnical investigation and report, ESDC	✓		✓			✓	
Livermore Ave. Pedestrian Bridge, Livermore 2011-2012 (s)	Foundation report for multispan bridge over arterial	✓	✓			✓	✓	
SF Bay Trail Bridges Prelim Design, Union City 2009-2011 (p)	Preliminary design for two 500-ft long multi-span pedestrian bridges	✓	✓				✓	
Stanley Blvd. Streetscapes, Pleasanton 2009-2013 (p)	Geotechnical investigation and PS&E for retaining walls, ESDC	✓	✓			✓		
Palomares Rd Emergency Stabilization, Castro Valley 2007 (p)	Geotechnical investigation and PS&E for retaining walls, ESDC	✓					✓	✓
Vasco Road Safety Improvements Phase I, Livermore 2000-2009 (p)	Geotechnical investigation and PS&E for retaining walls, ESDC	✓	✓	✓		✓	✓	✓
McKillop Rd Emergency Landslide Repair, Oakland 2006-2007 (p)	Geotechnical investigation and PS&E for retaining walls, ESDC	✓	✓	✓	✓	✓	✓	✓
Crow Canyon Rd. Geotechnical Study, Alameda Co 2004 (p)	Design level geotechnical investigation and report for road improvements							
Nelson Road Landslide, Santa Cruz County, 2011	Emergency response; conceptual design of road bypass and slide mitigation (27 homes)				✓			

Flood Control Project Name, Location	Description	CE&G Personnel						
		Phil Gregory	**Chris Hockett**	**Mark Myers**	**Dave Burger**	**Reid Fisher**	**Eli Zane**	**Dan Peluso**
Zone 5 Line B Pipe Jacking below I-880, Newark, 2013-2016 (s, p)	Geotechnical investigation, PS&E, 300 foot long culvert	✓	✓					
Upper San Creek Basin, Antioch, 2008-2013 (s)	Geotechnical investigation, geologic mapping, 1,000 acre-ft	✓	✓	✓	✓			
Chesbro, Coyote, Uvas Dams, Santa Clara Co, 2015-2016 (s)	Geotechnical exploration for seismic stability evaluation	✓			✓	✓		✓
Alamitos Creek Levees, San Jose, 2015 (p)	Geotechnical investigation for levee certification	✓		✓	✓	✓	✓	✓
Chabot Creek Restoration, Castro Vly 2013-2014 (s)	PS&E, slope stabilization, erosion control, sidewalk repairs	✓	✓	✓	✓		✓	
Zone 5 Line K/K1 Improvements, Fremont, 2011 (s)	Levee raise, resurfacing, floodwall replacement, design, 1,300 feet	✓	✓		✓			
Zone 5 Line P Culverts, Fremont 2009-2012 (s)	Geotech investigation and PSE for supplemental culverts	✓	✓				✓	
Zone 5 Wetland Mitigation, Alameda Co 2015-2016 (s)	PS&E, 57 acre wetland	✓	✓					
ACFC Levees O&M Manuals, Alameda Co 2014-present (s) WR	Preparation of levee maintenance manuals	✓					✓	
Zone 6 Line E Improvements, Fremont, 2012-2015 (s)	Geotechnical investigation, PS&E for culverts, bridge,floodwalls	✓	✓	✓	✓		✓	
Shoreline Levees Certifications, Hayward, 2010-present (s) WR	Geotechnical investigation, permitting	✓		✓	✓		✓	
Don Castro & Cull Creek Dams, Castro Vly 2004-present (p) WR	Subsurface investigation, testing, analysis, seismic evaluation	✓		✓	✓			
Peralta Creek Improvements, Oakland 2008-2009 (p)	Geotechnical investigation, PS&E for improvements	✓		✓			✓	

2. Approach to On-Call Services

Locations to Provide Services

Main Office Performing Work

1870 Olympic Boulevard., Suite 100
Walnut Creek, California 94596
(925) 935 - 9771

For Fairfield, CE&G will primarily provide services using personnel based in our Walnut Creek office and will be readily available to respond to rapid response situations. As required for either technical or staffing needs, Walnut Creek personnel will be supported by staff from the Oakland and San Jose offices.

Ability to Provide Services

Flexibility

Based on our history of working with Fairfield and other local municipalities, we are confident that the needs of Fairfield can be met at any time for projects of any size. CE&G completes hundreds of projects of various sizes every year and routinely allocates staff to complete projects.

Quick Project Turnaround

When needed, CE&G has the leadership, experience, and resources necessary to complete projects in an accelerated timeframe. CE&G has a proven track record of completing geotechnical investigations within a few weeks when required upon receipt of a notice to proceed. Our project managers have the authority to reallocate project staff as necessary to jump on projects requiring quick turnaround. The local geologic knowledge CE&G possesses allows us to quickly and efficiently evaluate the anticipated subsurface conditions prior to visiting the project site. This knowledge, in combination with our extensive geologic library and local expertise, often allows us to complete large portions of our geotechnical reports prior to completion of the subsurface exploration phase.

Over the past 23 years, CE&G has responded to, landslides, beach erosion, and flooding from severe storm events such as El Nino experienced in 1995 and 1997-98. CE&G also provided response to the 1994 Northridge Earthquake and the 2014 Napa earthquake. It has been our policy to email our municipal clients contact information at the beginning of the winter. To further our response capabilities, we are currently Beta testing an improved contact system which will be implemented before the upcoming winter.

Typical Scope of Services

The scope of services we provide varies greatly depending on the specific project. In general the scope of geotechnical services that will typically be provided by CE&G include one or more of the following:

- Preparation of geotechnical reports which may include field exploration, geologic reconnaissance, geologic mapping, excavation of test trenches, geotechnical borings, soil sampling, standard penetration tests (SPT), cone penetrometer tests (CPT), in-situ strength testing (vane shear), piezometer and inclinometer installation and monitoring, and non-destructive geophysical subsurface imaging as warranted

- Visual classification of on-site soils for acceptance of material for use as backfill or pavement subgrade materials, and

evaluation of on-site soils with respect to slope stability
- Soils observation including compaction testing
- Review, technical advice, and recommendations
- Technical support for soil stabilization, including lime treatment and other dewatering measures
- Peer review of geotechnical investigation and fault investigation reports prepared by others
- Additional "on-call" services such as emergency response to storm damages such as landslides, debris flows, creek bank erosion
- Preparation of PS&E for various geotechnical-related projects

CE&G's Mission

CE&G's underlying mission is to provide geotechnical and geologic consulting services to our clients by taking a pragmatic approach to everything we do. It is not just about coming up with ideas about how to solve our clients' needs, but about developing technically solid, yet reasonable and practical solutions in a cost-effective manner.

> ***PRAG·MAT·IC***
>
> adjective \prag-'ma-tik\
>
> : dealing with the problems that exist in a specific situation in a reasonable and logical way instead of depending on ideas and theories

Although our professionals are experienced in the geological, geotechnical, and testing disciplines, at the end of the day it is about delivering a timely product that thoroughly incorporates the needs of our clients.

Approach to Clients and Projects

Understand the Client's Needs

Cal Engineering & Geology believes that thoroughly understanding the needs of our clients is the key to providing excellent customer service and maintaining long-term customer relationships. This is particularly true in the current climate when public agencies are often understaffed and overworked due to funding limitations. We know that many of our municipal clients have limited staff time available to manage inexperienced consultants. We therefore strive to provide only experienced project managers and technical staff who are intimately familiar with the public project process.

The first step taken by each CE&G project manager is to meet with the agency's project manager to review all aspects of the project and develop an understanding of CE&G's and the agency's project manager's roles in the overall project scope. By understanding the context of CE&G's geotechnical (or other) services allows us to work within the project and reduce the need for excessive management and coordination by the agency's project manager. Once the needs and workings of a client are understood, we can adapt our technical approach and project management style and methods accordingly. This benefits both us and our clients by directing our project staffing and allowing development of realistic timeframes and budgets.

Communicate Throughout The Project

Once the client's needs for a particular project are established, CE&G's project manager will implement a project-specific communication protocol. Depending on the complexity of the project and the

stakeholders involved, this communication could range from informal email and telephone meetings to a project-specific website and detailed scheduled team meetings. Regardless, CE&G will constantly communicate with the agency's project manager and other identified project participants so that the current status of project tasks is known by all. We believe strongly that communication throughout a project results in much better overall project teamwork and keeps projects on time and within budgets.

Project Management and Controls

Project Manager and Team

CE&G believes that the key to effective project management is to provide the right leadership and personnel for each project. Before each project assignment we review the technical, schedule, and other project considerations to select the appropriate project management and team. We are able to be flexible and responsive in almost every situation because of the depth and experience of our professional staff.

Once a project manager (or task manager) has been selected and project team assigned, the project manager will work proactively to manage the project to deliver an on-time, on-budget, quality project to the City of Fairfield. This will be accomplished by way of our project and quality controls.

Project Controls

CE&G utilizes real-time project controls and tracking as a means of enabling our project managers to complete quality projects that are on time and on budget. We have found that a one or two week lagging in tracking time and costs can often cause projects to get out of control. As such, CE&G's project tracking and control systems are set-up so that they are easily accessible by project managers using real time staffing and expense cost data. This allows daily updating and control of our projects which are often relatively small.

CE&G's project managers are all aware of the reality that keeping geotechnical work on schedule is on the critical path of almost all projects. At the beginning of any project we try to identify realistic time frames for completion of various tasks so that the expectations of the rest of the design team can be met. We have found that early and frequent communication with the client and other project stakeholders is the key to a successful project.

Quality Control

Quality control of all CE&G projects is maintained by use of our in-house quality control and assurance program. Each calculation and analysis (including input parameters) is thoroughly checked for accuracy, correct use of analytical methods, and reasonableness of the analytical result. The checking procedure is undertaken by adequately experienced and knowledgeable staff and/or outside professionals and is documented with signed-off sheets.

Peer Review-Specific Methodologies

Since CE&G's beginnings in 1993, Principal Geologist Mitch Wolfe and Principal Engineer Phil Gregory have been providing geotechnical and geologic peer review services for East Bay municipalities. The addition of Principal Geologist Reid Fisher and Associate Engineer Dan Peluso brings extensive involvement in Fairfield peer reviews into the CE&G fold, with the two of them collectively providing peer review to the City of Fairfield since the mid-1990's.

CE&G's staff have provided geotechnical peer review services for dozens of project in the City of Fairfield, over 100 projects in unincorporated Alameda County, for more than 50 projects in the Town of Moraga, and dozens of projects in other communities including Oakland, Lafayette, Dublin, San Ramon, San Jose, Martinez, San Carlos, Healdsburg, Woodside, Morgan Hill, and Hayward. Our consistent staffing of the peer review projects in each community in which we work has been recognized and appreciated by the planning and engineering staff with whom we work. Throughout the years our collaborative approach to peer review has created positive relationships with many other consultants who we have reviewed and with our municipal clients.

Cal Engineering & Geology has developed a consistent and successful approach to provide geotechnical and geologic peer review services for a wide variety of projects in different communities. Our philosophy has always been that when undertaken properly, peer review is collaborative in nature rather than adversarial. If done correctly, peer review provides benefits to all parties involved: the city, the general public, the project developer (applicant), and the developer's consultants. Geotechnical peer reviewers can and should be valuable "partners" for every project and their participation should result in a true "win-win" scenario for all parties.

CE&G recognizes that the state of the practice evolves, and that peer review by nature must evolve as well. We at CE&G take pride in being aware of developments in the geotechnical and geologic fields, and in putting pragmatic expertise to work. We understand that time is of the essence for both the applicant and the City, and make every effort to expedite the review process.

Review Scoping

At the outset of a peer review, CE&G will work with City staff to understand the City's concerns, preliminarily identify the major anticipated geotechnical concerns, and establish a review scope and cost estimate. Once the necessary deposit has been secured by the City, and notice-to-proceed given, review can proceed. CE&G's accounting software allows project managers to track time and costs in near-real time, in order to assure efficient time usage, and to alert the City if unanticipated review issues may be forthcoming that could affect budgeting.

Office Studies

Once assigned a peer review project, the CE&G project staff will conduct an office study of the site prior to reading any report or reviewing development plans. The purpose of the office study is to provide an initial, unbiased assessment of the geotechnical and geologic conditions at a site without being influenced by the interpretations or conclusions presented by another geotechnical/engineering geology consultant. The scope of the office study will consist of compiling and reviewing published soil and geologic maps and other historic geotechnical/geologic reports and documents that may be available for adjacent or nearby properties. Such documents would include USGS maps and reports, USDA NRCS Soil maps, CGS Seismic Hazard maps and reports, ABAG seismic hazard maps, special landslide hazard maps and reports, Alquist-Priolo (AP) reports that have been filed with the City and CGS, geotechnical and geologic reports from state projects (Caltrans and DWR), and historic aerial photographs. CE&G's review also considers applicable state, county and local guidelines such as the CGS's Special Publication 117A (for review relating to landsliding and liquefaction); and

applicable elements of the General Plan or any Specific Plan. To accomplish these office studies efficiently, CE&G maintains and grows its in-house collection of digital and printed historical maps and reports; our library encompasses the city of Fairfield.

CE&G's professionals are familiar with Fairfield's geology and geotechnical issues, and have direct field and review experience, for example, with the Green Valley and Cordelia faults; deep-seated landsliding in the problematic sheared bedrock (e.g. west of I-680); earthflow and debris-flow landsliding more generally in hillslope areas; and liquefaction potential (such as near Cordelia).

Review of the Proposed Geologic and Geotechnical Study

Early in the development stage of a project, CE&G routinely participates in the review of proposed scopes of geotechnical and geologic work developed by an applicant's consulting team. This is viewed as an opportunity to collaborate with the development team and increase the chances that the studies undertaken by the applicant's consultant will be sufficient and adequate for the purposes of properly characterizing the geotechnical and geologic conditions at the site. The review typically includes a preliminary meeting with the consultant to ensure that the consultant's understanding of the geologic constraints at a project site is consistent with our interpretations.

Review of Reports and Development Plans

Once the office studies (and review of a geotechnical work plan, as warranted) have been completed, we will proceed with the review of geotechnical and geologic reports and development and improvement plans. The review will include technical evaluation of the findings, conclusions, and recommendations to ensure that the work is consistent with the state guidelines and the County's ordinances. This technical review will be completed by principal and senior level geotechnical engineers and engineering geologists from CE&G who have the appropriate experience and qualifications. Both geotechnical engineers and engineers from CE&G will together on each review project. Geotechnical engineers will be used to evaluate the adequacy of liquefaction and slope stability analyses and grading and foundation recommendations. Our geotechnical engineers will also evaluate the adequacy and reasonableness of remedial design measures and earth retention systems. Engineering geologists will be used to evaluate and assess fault hazards and characterization of site geologic and soil conditions and to confirm conditions during project grading and implementation, as warranted.

CE&G's reviews will consider the project development plans in addition to the geologic and geotechnical reports. We believe that a thorough knowledge of an entire project is needed in order to fully comprehend the geotechnical and geologic constraints for any particular project. If even at only a conceptual level, the overall grading and planned improvements need to be considered by the peer reviewer (and the applicant's consultant) to put the geologic and geotechnical constraints at a site into the proper context.

Field Reconnaissance and Observations of Exploration

To support the review of reports and documents, a field reconnaissance of each site will be completed as part of the peer review process. Each field reconnaissance will consist of completion of base level observations to assess the surficial conditions present and to confirm the

assumptions made during review of the project documents. As applicable, we will provide field mapping of the geologic conditions at a site, including adjacent upslope and downslope areas, to further ascertain the project constraints and to develop an independent assessment of the geologic conditions that may be impacting a particular site.

Fault investigation peer reviews (for sites near the Green Valley and Cordelia faults) will involve a field review of draft trench logs and the trench exposures, together with the applicant's consultant. This provides an opportunity to iron out understandings and reach consensus on interpretations.

Meetings/Conferences

Each peer review project typically includes a meeting or conference with the project's geotechnical consultant and the City's project manager. For some projects this may be a simple teleconference to discuss the project and review the City's requirements. Other projects will necessitate that a site meeting be held to discuss the project, the site, and the applicant's consultant's evaluation of the relevant site conditions. We have found this communication fosters a collaborative atmosphere, as well as quickening turn-around times and reducing costs.

The location of our closest office in Walnut Creek means that our staff can be available on relatively short notice with minimal travel time, for meetings or site observations.

Preparation of a Written Review Letter

The peer review process will culminate with the preparation and issuance of a letter(s) which present the findings and recommendations of the peer review. Because of the process involved and described above, the contents of the review letter are typically anticipated by the various parties involved prior to issuance of the letter.

Confirmatory Observations During Grading/Site Development

After approval of a project it is not unusual that the project may require that certain apparent geologic and geotechnical conditions be confirmed during the construction of the project. This is often the case when hillside grading takes place and remedial grading of existing landslides is required; or when project grading extends into an area investigated for active faulting. Similarly, deep excavations may also require field confirmation of assumed subsurface conditions based on a limited number of exploratory borings. In these cases, if the City desires it, CE&G's reviewers are available to provide during construction peer review services to ensure that the conditions encountered and the infield interpretations made are consistent with those assumed when the project was approved.

3. References

Alameda County Public Works Agency

Moses Tsang, P.E.
Supervising Civil Engineer
(510) 670 – 6549

City of Martinez

Joe Enke, P.E.
Senior Civil Engineer
(925) 372 - 3524

City of San Ramon

Robin Bartlett, P.E., G.E.
Senior Engineer
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City of Lafayette

Tony Coe, P.E.
City Engineer
(925) 299 – 3203

City of Dublin Public Works

Gary Huisingh, P.E.
Public Works Director
(925) 833 - 6630

City of Morgan Hill

Mario Iglesias, P.E.
Utility Systems Manager
(408) 426 – 1979 (cell)

Town of Moraga

Laurie Suchang, P.E.
Senior Civil Engineer
(925) 376 - 5200

City of Orinda

Chuck Swanson, P.E.
Director of Public Works
(925) 253 – 1252

Santa Clara Valley Water District

Karl Neuman, P.E., G.E.
Associate Civil Engineer
(408) 630 – 3059

Zone 7 Water Agency

Jarnail Chahal, P.E.
Engineering Manager
925-454 – 5027

East Bay Regional Park District

Sean Dougan
Trails Development Program Manager
(510) 544 – 2611

4. Fee Schedule

SCHEDULE OF CHARGES 2016

PROFESSIONAL SERVICES

These are "all-up" rates, and include direct salary cost, overhead, general and administrative costs not separately accounted for, and profit. They shall remain in effect through December 31, 2016. Work continuing beyond December 31, 2016 will be invoiced at the applicable new year's rate.

PERSONNEL	RATE
Principal Engineer/Geologist	$220 / hr
Associate Engineer/Geologist	$195 / hr
Senior Engineer/Geologist	$179 / hr
Project Engineer/Geologist	$144 / hr
Staff Engineer/Geologist	$128 / hr
Technician (Straight rate prevailing wage)	$115 / hr
Project Assistant	$ 82 / hr
Administration/Clerical	$ 77 / hr
Special Inspector (Straight rate prevailing wage)	$118 / hr
Deposition/Court Testimony (minimum 4 hours)	$360 / hr

LABORATORY TESTS	FEE
Concrete Compressive Strength	$ 35 / test
Moisture Content (ASTM D 2216)	$ 20 / test
Moisture & Density (ASTM D 4318)	$ 28 / test
Atterberg Limits (ASTM D 4318)	$180 / test
Compaction Curve, 4" mold (ASTM D 1557)	$230 / test
Compaction Curve, 6" mold (ASTM D 1557)	$280 / test
Wash over #200 Sieve (ASTM D 1140)	$ 65 / test
Sieve Analysis with #200 Wash (ASTM D 422)	$130 / test
Sieve & Hydrometer (ASTM D 422)	$205 / test

REIMBURSABLES	RATE
Mileage	$0.55 / mile
Nuclear Gage	$ 50 / day
Inclinometer	$175 / day
Vane Shear Device	$100 / day

TRAVEL TIME

Travel time will be charged at regular hourly rates, not to exceed eight (8) hours per day.

EXPENSES

All direct costs will be billed at actual cost plus 10%, unless there is explicit agreement otherwise. Direct costs include:

- Third party services – Fees for subcontracted third party services (including drilling and backhoe services, special consultant fees, permits, special equipment rental, overnight mail or messenger services and other similar project related costs)
- Travel expenses, including airfares, hotel, meals, ground transportation, and miscellaneous expenses
- Reproduction costs, including photocopy, blueprints, graphics, photo prints or printing

SUBCONSULTANTS

To the extent that it becomes necessary to use subconsultants, the City will be invoiced at cost plus 10% to cover insurance liability and other overhead costs.

5. Resumes

Resumes for our key personnel listed in our SOQ are included in the following pages.

CE&G
CAL ENGINEERING & GEOLOGY

ELI ZANE
Senior Engineer
California Civil Engineer No. C73284
California Geotechnical Engineer No. 3035

EDUCATION

B.S., Civil Engineering, University of California at Berkeley, 2005
International Erosion Control Association 2006 Conference
CPN Training Course on Radiation Safety and Use of Nuclear Gauge

ACCOMPLISHMENTS

Geotechnical-related structure design
Geogrid-reinforced soil slopes and segmental retaining wall designs
Preparation of plans and specifications for municipal agencies
Construction Quality Assurance for Landfill Liner Placement and Cell Development
Evaluation (static, seismic, rapid drawdown) of levees

PROFESSIONAL ORGANIZATIONS

International Erosion Control Association
American Society of Civil Engineers
East Bay Municipal Engineers

REPRESENTATIVE EXPERIENCE

Peaceful Glen Road Vacaville, CA
Project engineer during a geotechnical investigation and design of stabilization measures for a 200 foot segment of Peaceful Glen Road adjacent to Sweeney Creek. The roadway was undermined by progressive lateral migration of the creek resulting in a lane closure. The project was included as an emergency repair to an already planned 800 foot long road widening project for Solano County. The project required geologic mapping, review of aerial photos, subsurface investigation, testing, and analysis to determine the limits of instability and design parameters. Design calculations for a tiered Ultra Block wall were prepared for the county which prepared PS&E for the project.

Aitken Drive Landslide Stabilization Oakland, CA
Lead engineer for developing plans, specifications, and construction cost estimate to stabilize Aitken Drive in response to creeping slopes and failing concrete sack retaining wall supporting the road. Project included a geotechnical exploration, preparation of preferred alternatives report and geotechnical report, and preparation of PS&E for the preferred alternative. A soldier pile and wood lagging retaining wall and stabilization pile repair was selected to repair the road for the City of Oakland.

McKillop Road Embankment Stabilization Oakland, CA
Project Engineer for design of a double retaining wall system used to stabilize McKillop Road from a landslide migrating toward the street. Project included design of a 160 linear feet inner soldier pile wall with two rows of tiebacks, and 190 linear feet outer soldier pile shoring wall connected to the inner wall using tie rods.

Memorial Park Trail Hayward, CA
Project engineer for two trail stabilization projects for the Hayward Area Recreation and Park District (HARD). The projects consisted of constructing a soldier pile and wood lagging retaining wall to support the trail adjacent to Ward Creek and constructing a segmental block retaining wall founded on piles and grade beam, and constructing stabilization piles. Work included preparation of a design memorandum, plans, specifications, and engineer's estimates for the trail stabilization projects.

Palomares Road Alameda County, CA
Project Engineer for developing plans, specifications, and construction cost estimate for rock fall protection barrier above Palomares Road MP 8.70 in Alameda County. A wire mesh slope protection net was utilized to prevent future rock fall events from entering the roadway.

Sir Francis Drake Boulevard M.P. 15.43 Lagunitas, CA
Project engineer for design of a retaining wall with tiebacks for stabilization of 140 foot length of roadway along Sir Francis Drake Boulevard near M.P. 15.43 adjacent to Lagunitas Creek. Project included PS&E for design of the cast-in-drilled-hole piles, including providing length, size, depth, spacing, and location; design of the concrete facing for the wall, design of tieback loads, and design of all reinforcing steel for the retaining wall.

Hiddenbrooke Park Vallejo, CA
Provided engineering and testing services in accordance with CE&G's on-call agreement with the City of Vallejo. The team provided surveying, civil engineering, and landscape architecture services for construction of the park which included construction of pervious parking lot, open lawn for informal play, prefabricated restroom building, 1/2 basketball court, picnic tables with shade structures, a water play area, tot play area, school age play area, bocce courts, an equestrian parking area, and open space trails. The project is subject to C3 requirements.

Lafayette Community Center Lafayette, CA
Project manager for a geotechnical subsurface exploration and recommendations for City of Lafayette's new Manzanita Building Located at the Community Center. Services included drilling and sampling, geotechnical borings, preparation of geotechnical recommendations as part of the geotechnical report.

Agua Fria Creek Improvements Hayward, CA
Project engineer for geotechnical investigation and design of creek bank retaining wall systems as part of creek restoration project for Alameda County Flood Control and Water Conservation District. Work included preparation of plans, specifications, and engineers estimate for log and concrete crib walls.

Laguna Creek Emergency Culvert Repair Moraga, CA
Project engineer for a geotechnical investigation and preparation of plans, specifications, and engineer's estimate (PS&E) for repair of a 9 foot diameter culvert inlet and outlet structures after the structures failed during a winter storm. The plans for the federally funded project consisted of removing and replacing the existing headwall, endwall, and wingwalls to their pre-disaster condition and the incorporation of rock slope protection placed on the creek bed to reduce the potential for undermining of the new structures.

San Lorenzo Creek (Line B) South Bank Emergency Embankment Repair Alameda County, CA
Project manager for an emergency creek bank repair below the Casa Sandoval Retirement Center in Hayward, California. A 34 foot long stretch of the south bank of San Lorenzo Creek failed during the winter of 2011. The project consisted of reconstructing the 0.5H:1V embankment with a 24 foot tall geocell embankment. Work included design, and preparation of PS&E repair plans in a months time. Work also included full time field engineer during construction to complete the repair before then end of grading season.

Peralta Creek Improvements Oakland, CA
Project engineer for geotechnical investigation and design of creek bank retaining wall systems as part of an alameda County Flood Control District-led project to improve the hydraulic capacity and habitat of a section of open flood control channel / creek in the Oakland flatlands. Work included subsurface borings and laboratory testing, preparation of a geotechnical design memorandum, design of new variable batter soil nail retaining walls, cantilever reinforced masonry retaining walls, and stabilization of existing un-engineered retaining walls; and engineering services during construction.

Alhambra Way Creek Bank Stabilization Martinez, CA
Project engineer for creek bank stabilization project constructed along Alhambra Way in Martinez, CA. Performed calculations and developed plans, specifications, and engineers estimate for rock slope protection embankment with concrete retaining wall. Work also included performing construction observations during construction.

Landslide Repair Lafayette, CA
Field engineer during remedial grading of a landslide. Project included slope stabilization of 3,000 cubic yards of soil of a hillside adjacent to several homes. Work consisted of geotechnical observations, compaction testing during grading, and completion of record drawing during construction.

Landslide Investigation Orinda, CA
Field engineer for investigation of a landslide behind a residential home. Project included logging of a 16 foot trench extending the length of the landslide. Work completed consisted of determining the location of old fills, drains, bedding plains and slide plane.

Retaining Walls Walnut Creek, CA
Completed design analyses, plans, and specifications for concrete masonry unit retaining wall system for residential subdivision in Walnut Creek. Project included design of several retaining wall configurations used to meet site constraints.

Geotechnical Investigation Walnut Creek, CA
Project Engineer for geotechnical investigation for new home. Scope of work included logging of the geotechnical borings, a liquefaction analysis, preparation of report and figures.

Residential Subdivision Oakley, CA
Field engineer during grading of several tracts of a 200-home residential development. Project included remedial grading prior to construction of post-tensioned slab foundations for one and two-story homes. Work consisted of geotechnical observations and compaction testing during grading and pad preparation.

Subdivision Geotechnical Investigation Oakley, CA
Project engineer for geotechnical investigation for 19.6 acre property to be subdivided into 75 to 80 single family residential parcels. Work included logging geotechnical borings, preparation of the Boring Logs, and related figures, and a liquefaction analysis for the site.

Slope Instrumentation Monitoring Bay Area, CA
Provide periodic monitoring of slope movement using RST Instruments Digital Inclinometer for various projects throughout the Bay Area. Information collected was used in design of several slope stabilization projects.

Zone 5 Line A Soil/Bentonite Wall Alameda County, CA
Field engineer during construction of the Zone 5 Line A levee remedial work along Alameda Creek south levee. The project consisted of reconstructing 3,900 feet of levee and construction of a 2,100 foot long soil/bentonite wall approximately 80 feet deep. Work consisted of construction observations during regrade, soil/bentonite wall construction, field testing of the soil materials, and conformance testing of the soil/bentonite wall.

Almaden Lake Improvements San Jose, CA
Project engineer to develop geotechnical data and recommendations for the District to design improvements to the existing lake and park facilities. The planned improvements include construction of a new earth dike or levee bisecting the existing lake with a maintenance road and pathway across it. The dike will separate the lake from Alamitos Creek which will be conveyed in a new channel with flood terraces. Completion of the project will reduce the methylmercury concentrations in the lake to meet objectives set by the San Francisco Regional Water Quality Control Board, reduce mercury in fish, minimize the thermal barrier to cold-water fish migration, and minimize impacts to recreational features. The geotechnical investigation included completion of a subsurface exploration program and laboratory testing. CE&G also provided engineering analysis including evaluation of slope stability, seepage, and settlement of the proposed improvements.

CE&G
CAL ENGINEERING & GEOLOGY

G. REID FISHER
Principal Geologist
California Professional Geologist No. 5135
California Engineering Geologist No. 1858

EDUCATION

Ph.D., Geology, Mackay School of Mines, University of Nevada, Reno, 1992
B.A., Geology, Carleton College, Minnesota,1980

ACCOMPLISHMENTS

Thirty-plus years of professional engineering geologic experience
Public agency and private industry consultation, peer review
Former Research Geologist (USGS)
Former Co-Director Carleton College Death Valley Field Seminar
Former Geomorphologist (Foundation for Illinois Archeology)

PROFESSIONAL ORGANIZATIONS

American Public Works Association, Member
Association of Engineering Geologists, Member, former Treasurer, Vice-President of SF Section
Geological Society of America, Member

REPRESENTATIVE EXPERIENCE

Dan Wilson Creek FEMA Recertification Fairfield, CA
Project manager and project geologist for FEMA recertification of levee sections flanking Dan Wilson Creek. Considerations including highly variable subsurface geology, adjacent landscaping ponds, multiple levee penetrations.

Cordelia Fault Investigation Fairfield, CA
North Fairfield Redevelopment Agency Site 2500-foot trenching program, to define complex zones of faulting. Considerations included high groundwater conditions and presence of Native American cultural features. Project involved integrating sea-level curves, soil development rates, and cross-cutting relationships involving cultural features.

Anderson Dam Seismic Retrofit Santa Clara County, CA
Independent peer review for HDR team of previous fault investigations and recommendations regarding future fault investigation. Additional services included mapping of potential borrow areas; characterization of rock mass; landslide mapping; review of rapid drawdown criteria; assistance in subsurface investigation at dam toe; and in developing recommendations regarding design-level exploration scope.

Red Mountain Bar Reservoir Sierra Nevada Foothills, CA
Geologic peer review of fault investigation for proposed pumped storage facility above Don Pedro Reservoir; project included underground powerhouse, and concrete-faced rockfill dam, under DSOD jurisdiction. Previous investigations identified lineaments associated with the Bowie Flat Fault, within the Foothills Fault System. Services included peer review of photogeologic lineament analysis; field review of lineament expression; field review of trench logs for 4 fault trenches; review of paleopedologic (soil age and development) analysis; and review of report.

CEQA/NEPA Elements Various, CA
Headed up geologic/geotechnical aspects of General Plans (Pinole), preparation of Master Plan and EIR (Northeast Fairfield), peer review of documentation for EIR's (various), preparation of EIRs, SEIRs (various). Issues commonly included landsliding and slope stability, and primary/secondary seismic hazards, as well as common geotechnical design issues.

Peer Review and Consultation Various Cities, CA
Engineering geologic peer review for the cities of Fairfield, Fremont, Oakland, Hayward, Morgan Hill, Los Gatos, Woodside, Healdsburg and the County of San Luis Obispo, California. Consultation provided on as-needed basis regarding active faulting, secondary earthquake hazards, and slope stability. Peer review services have included review of investigation scope; field review; report review. Other services have included presentations at public meetings, revision of City Geologic Map and Geologic/Seismic Hazard Maps (for Woodside and San Carlos).

Humboldt Bay Nuclear Power Plant Eureka, CA
Principal-in-charge for engineering geologic and geotechnical peer review services provided to PG&E in connection with geologic/geotechnical investigation for proposed Dry Cask Storage Facility. Project involved coordination with PG&E in-house design team, Quality Assurance/Quality Control personnel, outside consultant team performing geologic/geotechnical investigation.

Quarry Hills Los Altos Hills, CA
Structural geologic evaluation of quarry wall slope stability through geologic mapping, definition of structural geologic domains, geometric analysis of planes of weakness and modes of rock failure. Dr. Richard Goodman provided field and report peer review. Services provided for non-quarry areas included assessment of Monte Vista fault expression; and subsurface investigation, analysis of debris flow hazard (history, volumes, runout)

Ground Movement Mechanism Study (Zone 7 Water Agency) Alameda County, CA
Manager of study that examined earth processes potentially generating significant ground movement detectable at the ground surface. As part of ongoing groundwater basin management and monitoring, this study evaluated various processes (including expansive soil movement, elastic/inelastic groundwater basin subsidence, and tectonic movement) and how they may be manifested at the ground surface. GIS approach considered and layered data from Quaternary geologic mapping, USDA soils mapping and test data, and historical ecological reconstructions of depositional setting.

Town Library Los Gatos, CA
Engineering geologic investigation for proposed new Town library, within a complex housing police and civic offices. Considerations included mapped fault trace traversing already-developed property, extensive underground utilities, adjacent steep hillslope requiring stabilization measures. Project completed on time, on budget, and won architectural/design awards.

Nelson Road Landslide Santa Cruz County, CA
Lead geologist for high-profile emergency and follow-on investigation for Santa Cruz County DPW and County Counsel of massive bedrock landslide blocking access to 27 homes. Services included use of LiDAR to image landslide geomorphology; ground- and helicopter mapping; small- and large-diameter drilling; installation of geotechnical monitoring (slope inclinometers, piezometer/datalogger units); slope stability analysis; and development of mitigation alternatives. Provided geologic comments at County public/media meetings. Successfully identified multiple feasible mitigation alternatives well received by County and area residents.

Liddell Spring Landslide Investigation Santa Cruz County, CA
Retained jointly by City and County of Santa Cruz, RMC Pacific Materials to evaluate a landslide complex near major City of Santa Cruz water source. Scope included field and aerial photographic geologic mapping; large- and small-diameter borings; datalogger-linked piezometers, TDR cables, and hydrologic instrumentation; slope stability analysis; mitigation development.

Landslide Evaluation Contra Costa County, CA
Consultation in legal case regarding construction-phase landsliding associated with excavation of major tank pad for two large municipal reservoirs.

Valley Drive Landslide Repair and Log Crib Installation Orinda, CA
Assessment of slope stability at an existing pier-supported retaining wall landslide repair that had been compromised by creek scour. Mitigation included construction of log crib with live plantings, development of pool/riffle channel morphology for steelhead habitat restoration.

South Fork Portal Access Rockfall Tuolumne County, CA
Field structural geologic assessment and reconnaissance kinematic analysis of rockslide that blocked access to key HHWP tunnel portal. Services included characterization of failure modes along access road segments, ranking of hazard/risk, and development of mitigation program. Reviewed, then provided field oversight for blasting/scaling operation provided by specialty contractor, with final inspection and report.

Felton Booster Pump Station Santa Cruz, CA
Geologic aspects of geotechnical investigation for proposed Felton Booster Pump Station for the Santa Cruz Water Department. Analysis included liquefaction and lateral spreading evaluation. Design included mitigation of significant lateral spreading and liquefaction-induced settlement hazards using compaction-grouting technique of ground improvement.

Berrocal Fault Investigation Los Gatos, CA
Project geologist on a fault investigation that successfully located the Berrocal thrust fault (one of the faults pertinent to Foothill College) and evidence of seismically-associated landsliding; successfully sited project to avoid problematic areas. Geologic complexities included structures associated with both compression (shortening) and extension (landsliding, gravitational influences). Investigation led to an invitation to lead portion of AEG sponsored field conference examining the Foothills thrust system.

Lower Carmel River Ecosystem Protection Barrier/Seawall Carmel, CA
Managed feasibility geotechnical investigation for proposed ecosystem protection barrier/flood wall and seawall next to Lower Carmel River Lagoon, Carmel River State Park and a coastal frontage road. Investigation (as sub to Whitson Engineers) involved exploratory borings, CPT soundings, geophysical data, seepage analysis, liquefaction analysis, and development of conceptual recommendations regarding type and support for wall/barrier options. Permitting involved coordination with California State Parks, maintaining tourist traffic access.

Upper Llagas Creek Flood Control Project Santa Clara County, CA
Headed up geologic portions of SCVWD/USACE-funded investigations for 13.6 miles of flood protection for Morgan Hill and Gilroy. Tasks included analysis of Quaternary geology through urban and rural areas, using airphoto and findings from fast-track program of more than 130 drillholes and 20 piezometers. Prepared all geologic portions of Planning (Phase 1) and Design-Level final reports, as sub to URS (Planning) and RMC (Design).

Lower Llagas Creek Flood Capacity Restoration Project Santa Clara County, CA
Headed up preparation of all geologic portions of Geotechnical Evaluation report (Geologic/Seismic Setting chapter, and graphics for final report). As subconsultant to GEI, participated in monitoring well, CPT program; provided piezometer monitoring; consultation to team regarding subsurface geology.

Calero/Guadalupe Dams Seismic Retrofit Santa Clara County, CA
Managed geologic, field exploration aspects of borrow area assessment, including compilation/assessment of existing mapping; supplemental field reconnaissance; test pit program; core drilling. Provided geologic components to borrow area screening and characterization reports; coordinated with environmental permitting staff and SCVWD personnel. Services provided as sub to GEI.

East Dunne Tank Preliminary Engineering Geologic Siting Study Morgan Hill, CA
Lead geologist and project manager for feasibility study in support of new 850,000 steel water tank in problematic slope terrain. Services included generation of custom LiDAR bare earth DEM for landslide/geomorphic mapping; field mapping; development of conceptual alternatives and approaches; preparation of graphics for public meetings. Successfully identified feasible site on City-owned property.

CE&G
CAL ENGINEERING & GEOLOGY

PHILLIP GREGORY

Senior Principal Geotechnical Engineer
California Civil Engineer No. 40728
California Geotechnical Engineer No. 2193

EDUCATION

M.S., Civil Engineering (Geotechnical), University of California at Berkeley, 1984
B.S., Civil Engineering, University of California at Berkeley, 1983

ACCOMPLISHMENTS

Thirty years of professional geotechnical engineering experience
Managed more than 100 public works geotechnical investigation and geo-design projects for ten separate agencies
Former soil testing instructor at Chabot Junior College in Hayward
Invited lecturer on geosynthetics, slope stability, and erosion control
Former co-Chairman of the Slope Technology Committee of IECA
Project engineer for design and analysis of various embankment dams through western U.S.
Designer of over 150 geogrid reinforced slopes and retaining walls

PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineers
International Erosion Control Association
American Public Works Association
Post Tensioning Institute
International Geotextile Society
United States Society of Dams
Association of State Dam Safety Officials
California Geotechnical Engineers Association
Floodplain Management Association
East Bay Municipal Engineers

REPRESENTATIVE EXPERIENCE

Hennessey Creek Improvements Fairfield, CA
Managed geotechnical investigation to develop design parameters and construction recommendations for the concrete lined channel and reinforced concrete box culvert which included geologic research, exploratory drilling, and laboratory testing. Oversaw design of portions of the reinforced concrete channel walls, a concrete drainage inlet for normal flow conditions, and a 40 foot long reinforced concrete box culvert for flood conditions.

Peaceful Glen Road Vacaville, CA
Project manager for a geotechnical investigation and design of stabilization measures for a 200 foot segment of Peaceful Glen Road adjacent to Sweeney Creek. The roadway was undermined by progressive lateral migration of the creek resulting in a lane closure. The project was included as an emergency repair to an already planned 800 foot long road widening project for Solano County. Work included geologic mapping, review of aerial photos, subsurface investigation, testing, and analysis to determine the limits of instability and design parameters. Design calculations for a tiered Ultra Block wall were also prepared.

5 Canyons Subdivision
Geotechnical Review Castro Valley, CA
From 1993 to 1999 CE&G provided special geotechnical and geologic peer review services to Alameda County Public Works Agency for Centex Homes' 800+ home hillside Five Canyons residential development in Castro Valley, California. Services included geotechnical and engineering geologic review of roads, bridges, retaining walls, and mass grading of the project. Mass grading of the tract included over 8 million cubic yards of earthwork and construction of more than 80,000 square feet of mechanically stabilized segmental block retaining walls and soil nail retaining walls.

Geotechnical Peer Review Moraga, CA
Provided geotechnical peer review of residential subdivision projects including a large 150 home hillside residential community and golf course.

Wallis Ranch Dublin, CA
Conducted a geotechnical and geologic peer review for a residential development in Dublin. The project site is located within a Seismic Hazards Zone for both earthquake-induced liquefaction and earthquake-induced landsliding. Services included site reconnaissance, review of geotechnical reports and historical aerial photos, preparation of review letters and comments, review of grading plans, and ultimately a supplemental geotechnical report with findings.

Zander Drive Landslide Orinda, CA
Project manager for the geologic and geotechnical characterization and stabilization alternatives and feasibility study for a 300 foot wide, 1,000 foot long and 105+ foot deep landslide below a city street and two city-owned parcels. Geotechnical investigations included the review of numerous previous reports and studies, completion of a subsurface exploration, instrumental, monitoring, and testing program; preparation of a landslide characterization report, a design alternatives report, and cost estimating. The project study had a cost of $165,000 and the estimated stabilization cost was $3 million. Due to the high cost of stabilization, CE&G prepared PS&E to implement drainage improvements and developed a landslide monitoring program.

Vargas Road Realignment and Creek Bank Fremont, CA
Provided and prepared a geotechnical investigation and a geotechnical report, design concept report, and full PS&E for repair of failure of a narrow rural road situated above a deeply incised ephemeral creek. The creek bank stabilization measures included biotechnical slope stabilization and installation of rock weirs within the creek bed. The existing road was relocated from the top of the creek bank, requiring widening of the road at the base of an ascending slope. The widening was completed by over-excavating the existing slope and constructing a geogrid reinforced steepened slope. Part-time observation of the construction was provided to assist County inspection personnel on an as-needed basis.

Stanley Boulevard Embankment Reconstruction Alameda County, CA
Provided emergency investigation, design, and preparation of PS&E for 15 meter high geocell faced, geogrid reinforced embankment reconstruction for the major arterial road between Pleasanton and Livermore. Project was FHWA-funded and received an outstanding achievement award from the local chapter of the American Public Works Association.

Camino Sobrante Retaining Wall/ Embankment Repair Orinda, CA
Managed the geotechnical investigation of a failing 19 foot high retaining wall supporting a heavily trafficked residential street in Orinda. Prepared separate geotechnical investigation report, plans, technical specifications, and estimates using modified Caltrans format. Project also included bidding assistance and construction observation and testing.

Crow Canyon Road Realignment Castro Valley, CA
Project manager for geotechnical investigation and report for safety improvements and realignment for 3 miles of Crow Canyon Road along Crow Creek. Project included over 40 borings and horizontal coreholes, geophysics and extensive laboratory testing.

Roadway Slope Stabilizations Lafayette, CA
Managed and undertook geotechnical investigation, stabilization design, and construction observation and testing for ten separate FEMA or FHWA funded emergency repairs on roads throughout the city.

Road Improvements Lafayette, CA
Managed geotechnical investigation and analysis for road restoration project involving retaining walls, embankment fills, and cut slopes.

Studio One Art Center Oakland, CA
Completed a geotechnical investigation and report for the seismic renovation of the historic structure. Project involved seismic and accessibility retrofitting of an unreinforced masonry building which was constructed in 1894.

Orinda City Offices Orinda, CA
Geotechnical manager for construction of a LEED certified municipal building developed on a hillside property. Work included subsurface investigation, preparation of preliminary and design level geotechnical report, numerous consultations with structural engineer and architect regarding foundation layout, and geotechnical observations during construction.

Seaborg Library and Learning Center Lafayette, CA
Project manager for geotechnical and foundation investigation for $30 million municipal library and research center. Project included two stories of underground parking including retaining walls and foundations on drilled piles and conventional footings.

Community Park and Ballfields Lafayette, CA
Managed geotechnical investigations for development of an 88 acre park site and redevelopment of an existing 16 acre ballpark for the City of Lafayette. Study included stream bank stability issues, slope stabilization, pavement design, design of 138 foot long pre-fabricated pedestrian bridge, and foundations.

Zone 4 Line A Channel Improvements Hayward, CA
Geotechnical manager for investigations and design assistance for widening and stabilization of 2,500 linear feet of an existing earth lined flood control channel and levee. Project included analysis and design of 2 to 3 foot high retaining/flood walls and stability assessment of proposed channel and levee modifications.

Galindo Creek Channel Repairs Concord, CA
Managed preparation of PS&E and provided permitting assistance and construction observation services for restoration of 1,200 feet of concrete lined channelized creek through a residential neighborhood. Work included investigations, design, construction observations and testing, and permitting assistance through coordination with Cal DFG, USACE, and SFBRWQCB.

Mt. Diablo Creek at Ayers Road Concord, CA
Project manager for the preparation of plans, specifications, and estimates and also provided permitting assistance and engineering support during construction for the Mt. Diablo Creek bank stabilization and restoration located at the Ayers Road overcrossing.

San Leandro Creek Restoration San Leandro, CA
Investigation, design, and preparation of PS&E for federally funded repairs of three properties located along San Leandro Creek following flood damages. Project included sheetpiles, rock slope protection, shoring, and a planted geocell faced, geogrid reinforced slope.

Lakeshore Storm Drain Improvements Oakland, CA
Managed geotechnical investigation for a new pre-cast box culvert at Lake Shore Avenue. Work was completed as part of an award-winning project undertaken by the Alameda County Flood Control District. The project included construction of a 3,000 foot long 6x8 foot pre-cast concrete box culvert adjacent to an existing cast-in-place box constructed in the early 1960s. The outfall of the line discharges into Lake Merritt. Variable soil conditions along the alignment required that the downstream 1,200 feet of the line be supported on driven piles while the remainder of the project could be constructed using conventional methods.

Sewer Relief Pipeline Oakland, CA
Managed a geotechnical study for the design and construction of a new 5,500 linear foot, 66 inch diameter reinforced concrete sanitary sewer relief system in west Oakland. Project crossed from alluvial soil through Bay Mud and required special shoring and foundation treatment.

Lower Llagas Creek Capacity Improvement Project Gilroy, CA
Lead geotechnical engineer for the subsurface exploration along the levees and embankments between HWY 152 and Bloomfield Avenue for levee certification. Work included historical research, data collation from previous explorations and development for the site, preparation of a Field Exploration Work Plan, coordination with the Santa Clara County Water District for access near an environmentally protected habitat, coordination with local permitting agencies, coordination with CPT and drilling agencies, coordination with additional consulting agencies, and subsurface exploration including 38 CPTs and 15 borings.

CE&G
CAL ENGINEERING & GEOLOGY

MITCHELL WOLFE
Principal Geologist
California Professional Geologist No. 4769
California Engineering Geologist No. 1487

EDUCATION

M.S., Geology, San Jose State University, 1982
B.S., Geology, San Jose State University, 1976

ACCOMPLISHMENTS

Geologic investigations for public agencies
Peer review and special geologic inspections for municipal facilities
Landslide repairs and foundation stabilization investigation projects
Geologic investigations for residential and commercial projects
Seismic hazards evaluations for residential and commercial development
Forensic engineering geology and causation studies

PROFESSIONAL ORGANIZATIONS

Association of Engineering Geologists
California Geotechnical Engineers Association
East Bay Municipal Engineers

REPRESENTATIVE EXPERIENCE

Palos Colorados Peer Review Moraga, CA
Provided geological peer review of proposed residential subdivision projects including a large 125+ unit hillside residential community and golf course. Work included review of technical reports, observation of subsurface explorations, review of grading plans and corrective grading plans, and testimony before Planning Commissions and City Councils.

Ryan Industrial Court
Peer Review San Ramon, CA
Completed a geotechnical review of the grading and improvement plans for construction of the proposed 48-Unit townhouse project located at the end of Ryan Industrial Court. The project consists of construction of 16 new townhouse buildings on the property. Each building will have 3 units and two water quality ponds were proposed along the southeast side of the property. Several retaining walls were required to establish the desired grades for the project. The rough grading plans estimate 16,200 cubic yards of cut and 3,400 cubic yards of fill resulting in a net cut of 12,800 cubic yards.

Wallis Ranch Dublin, CA
Conducted a geotechnical and geologic peer review for a residential development in Dublin. The project site is located within a Seismic Hazards Zone for both earthquake-induced liquefaction and earthquake-induced landsliding which requires evaluation. Services included site reconnaissance, review of geotechnical reports and historical aerial photos, preparation of review letters and comments, review of grading plans, and ultimately a supplemental geotechnical report with findings.

Bettencourt Ranch
Special Geologic Inspector Contra Costa County, CA
Provided technical peer review services on behalf of the county planning department and county geologist during the grading phases of major subdivisions in landslide prone terrain. Included review of technical reports, slope stability analysis, and on-site inspections of landslide repairs during grading phases of the projects.

Earthquake Fault Hazard Evaluations East Bay, CA
Project manager for earthquake fault hazard evaluation projects for residential and commercial properties. Included reconnaissance level mapping, analysis of aerial photographs, logging of exploratory trenches, and evaluation of fault related features, meetings with peer review consultants, and report preparation.

Active Fault Hazard Investigation
Commercial Development Oakland, CA
Project included evaluation of potential for active faulting at the site, exploratory trenching, analysis of historical aerial photographs, reconnaissance level field mapping, meetings with geologic peer review consultant and City of Oakland project engineer.

Country Club Golf Course and
Condominium Complex Peer Review Moraga, CA
Provided geologic peer review of technical reports for proposed golf course expansion and condominium project situated on a massive landslide deposit. Included review of technical report, slope stability analysis, planning commission meetings, and observations during grading.

Peer Review Minor Subdivisions Pleasanton, CA
Provided geologic and geotechnical peer review services for minor subdivisions within the Castlewood Country Club. Reviewed geologic and geotechnical reports, slope stability analyses, grading plans, and retaining wall plans. Provided geologic observations during grading and reviewed as-built drawings and final grading report on behalf of Alameda County.

Peer Review 12 Lot Residential
Development Pleasanton, CA
Completed geologic and geotechnical peer review for a 12 unit residential development on Bunker Lane in Castlewood Country Club. Reviewed geologic and geotechnical reports, grading plans, retaining wall plans, and structural drawings. Provided peer review services for County during site grading and reviewed final grading report and as-built drawings.

Peer Review Services Custom Home Sites Pleasanton, CA
Provided geologic and geotechnical peer review services for custom home sites within Castlewood Country Club. Reviewed geotechnical and fault hazard evaluation reports, observed exploratory fault trenches, development plans, grading plans, slope stability analyses, and fault and landslide feature maps.

Subdivisions Peer Review Contra Costa County, CA
Provided geologic peer review for residential subdivisions projects for cities and county agencies. Work included review of geologic and geotechnical reports and plans of control for geologic hazard abatement districts analysis of aerial photography observations of geotechnical borings and test pits, downhole logging of large diameter borings, analysis of laboratory test data, and meetings with agency personnel and appearances before planning commissions, design review boards, and city councils.

5 Canyons Subdivision Peer Review Alameda County, CA
Provided geological peer review of major 1,000-home hillside residential subdivision project near Castro Valley. Development project included four major subdivisions, two bridges, numerous retaining walls, over 1,000 residential homes, club house, tennis facility, fire station, athletic field, and associated roads. Work included review of geotechnical reports, development plans, record drawing, observation during a four year construction period, and annual monitoring of slopes and drainage facilities after construction was completed.

Bair Island Force Main San Mateo County, CA
Principal geologist for geotechnical exploration for proposed new 48-inch forced sewer main near Bair Island Slough. Duties for the project included historical research of the project area, collection of previous exploration data, coordination with the drilling subcontractors, field investigation, laboratory testing selection, and report development. The field investigation included 5 over-land exploratory borings utilizing a track mounted all-terrain drilling rig and 4 over-water exploratory borings utilizing a barge mounted drilling rig. Drilling consisted of the use of rotary wash borings, containment of the drilling fluid and cuttings in drums, coordination with the environmental testing and removal of the drums, and locating and marking the explorations with the use of buoys and stakes. In addition to the exploratory borings, 3 piezometers were installed at selected locations adjacent to the borings. The monitoring wells were developed and periodic readings of the groundwater levels were performed.

Rock Slope Stabilization Piedmont, CA
Project manager for geologic and geotechnical investigation for stabilization of rock slope face below threatened residential structure. Investigation included deep rotary wash boring, mapping of rock slope face, wedge failure analysis, and preliminary recommendations for slope stabilization measures.

Road System Rehabilitation Contra Costa County, CA
Provided geologic input for design of remedial repairs to failed cutslopes along primary access route to Mt. Diablo State Park. Project included mapping of bedrock geology, landslides, and evaluation of rock fall and wedge failures.

Evaluation and Monitoring of Open Space Areas SF Bay Area, CA
Completed geologic and geotechnical evaluation of open space areas owned and managed by homeowners associations. The evaluation included research of available geotechnical reports and grading plans for the properties, review of historical aerial photography, mapping of landslides and geologic hazards, delineation surface and subsurface drainage facilities, and development of annual maintenance and monitoring programs. Provided annual observations of open space areas, and prepared summary report of findings and recommendations.

Vasco Road Safety Improvements Livermore, CA
Principal geologist for geotechnical study completed for Alameda County Public Works Agency for re-alignment of approximately 1.2 km of major roadway between eastern Alameda and Contra Costa counties. Project consisted of large 25 meter cut into faulted and intensely fractured bedrock situated along an active trace of the Greenville Fault. Work included completion of approximately 20 coreholes and borings, exploratory trenching, geophysics, design of reinforced soil embankments and retaining walls, and observation and testing services during construction.

Crow Canyon Road Safety Improvements Castro Valley, CA
Principal geologist for geologic and geotechnical investigation and report for safety improvements and realignment for Crow Canyon Road between Castro Valley and San Ramon. Project included geologic mapping along road alignment, vertical and horizontal exploratory borings, test pits, seismic refraction surveys, analysis of aerial photographs, and preparation of preliminary report of findings.

Emergency Slope Repairs and Stabilization East Bay, CA
Principal geologist for geologic and geotechnical investigations, design of repair plans and specifications, and construction observations and testing for FEMA and FHWA funded Emergency Slope Repairs for sites along major arterials within Contra Costa and Alameda Counties. Sites include Taylor Boulevard in Pleasant Hill; Solano Way, Taylor Boulevard, North Thompson, Pleasant Hill, St. Mary's and Martino Roads in Lafayette; Rheem Boulevard, Bollinger Canyon Road, Camino Pablo, Canyon, Moraga, and St. Mary's Roads in Moraga; Welch Creek Road in Sunol, and Cantelow Road in Solano County. Repairs have included regrading, reinforced soil slopes, gabions, design of extensive surface and subsurface drain systems, hydraugers, erosion control improvements, and slough wall systems.

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CAL ENGINEERING & GEOLOGY

CHRIS HOCKETT
Associate Engineer
California Civil Engineer No. 71938
California Geotechnical Engineer No. 2928

EDUCATION

M.S., Civil Engineering, San Jose State University, December 2008
B.S., Civil Engineering, California Polytechnic State University, San Luis Obispo, 2004

ACCOMPLISHMENTS

Preparation of plans, specifications, and engineer's estimates for public works projects
Development of geotechnical data and design reports and PS&E for trenchless pipelines
Caltrans foundation design reports for bridges
Three-dimensional modeling of roadway corridors, retaining walls, and earthwork operations
Invited lecturer to teach Alameda County staff CE&G's floodwall design process
Geogrid-reinforced earth embankments and segmental retaining wall designs

PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineers
American Public Works Association
California Geotechnical Engineers Association
East Bay Municipal Engineers, Co-Chair, 2013
South Bay Engineers Club, Director, Current
American Concrete Institute
Floodplain Management Association
North American Society for Trenchless Technology

REPRESENTATIVE EXPERIENCE

Hennessey Creek Improvements Fairfield, CA
Project engineer for the investigation to develop design parameters and construction recommendations for the concrete lined channel and reinforced concrete box culvert which included geologic research, exploratory drilling, and laboratory testing. Oversaw design of portions of the reinforced concrete channel walls, a concrete drainage inlet for normal flow conditions, and a 40 foot long reinforced concrete box culvert for flood conditions.

Petersen Road Suisun City, CA
Project manager and lead engineer for geotechnical explorations and reconstruction along Petersen Road. The project consisted of reconstructing the asphalt concrete pavement and widening of the roadway by approximately 20 feet. Full depth reclamation (FDR) of the existing roadway was used to reconstruct the road and enabled recycling of 100 percent of the existing asphalt concrete and road base material to create a stabilized base material that was topped with hot mix asphalt.

San Quentin Village Retaining Walls Marin County, CA
Project manager and lead design engineer for geotechnical engineering and geo/civil design of two retaining walls. The walls will provide space for the sidewalk and stabilize the slope. Services included background research, field observations, exploratory drilling, laboratory testing, value engineering, a geotechnical report, and preparation of design calculations.

Patterson Pass Road Alameda County, CA
Project manager and lead engineer for evaluating the affect of construction traffic on existing pavement east of Livermore. A safety improvement project at Patterson Pass Road mile marker 6.4 required the use of 5-axle semi-trailer trucks to offhaul nearly 15,000 cubic yards of soil and rock. Work included construction traffic analysis, calculation of equivalent single axle loads (ESAL), and quantifying the decrease in pavement serviceability along the haul route. As a result of the work, a contingent bid item was incorporated into the construction documents to repair pavement damaged during construction.

Vasco Road Safety Improvements Livermore, CA
Project engineer for geotechnical design services provided to Alameda County Public Works Agency for re-alignment of approximately 1.2 km of major roadway between eastern Alameda and Contra Costa counties. Work included design of an 11 meter tall geogrid reinforced segmental block retaining wall and several reinforced soil slopes and preparation of specifications and estimates for the geotechnical aspects of the project.

Bridge, Roadway, and Sidewalk Improvements Fairfax, CA
Project engineer for geotechnical investigation for new prefabricated pedestrian bridge and pile supported sidewalk adjacent to Sir Francis Drake Boulevard. Sidewalk structure was constructed at the top of a 60 year old, 15 foot tall retaining structure along the creek bank. Project also included roadway widening using a segmental retaining wall.

Bollinger Canyon Road Moraga, CA
Completed a subsurface exploration, soil sampling, and prepared a geotechnical design report based on local geology, laboratory test results and design parameters. Design focused on slope stability of the embankment. East Bay Regional Park District's road widening and realignment project includes improvements to 2,700 feet of the one-lane gravel rural road with 8 turnouts, 80 to 100 feet long; embankment fill; and earth retaining structures.

Mountain View Pavement Project Mountain View, CA
Completed design services for geologic and geotechnical subsurface exploration and pavement design for pavement rehabilitation projects along three city streets. Project consisted of reconstruction of the existing curbs, gutters, and asphalt pavement along segments of the three streets.

Power Avenue and California Avenue Pittsburg, CA
Completed a geotechnical exploration and report for the overlay and reconstruction of portions of Power Avenue and California Avenue. Project included a subsurface exploration and recommendations for design and construction of the fast-tracked pavement project.

Rancho Rio Bridge Ben Lomond, CA
Project engineer for preparation of a foundation report for the replacement of the Rancho Rio Avenue Bridge over Newell Creek. The existing bridge was approximately 39 feet long and 12 feet wide. The bridge superstructure consisted of steel girders with a concrete deck and was founded on reinforced concrete abutment walls that were supported by spread footings. The bride deck surface was approximately 12 feet above the bottom of Newell Creek. The planned project consisted of a new two lane bridge approximately 48 feet long, 29 feet wide, approximately 29 feet above the creek bottom, and founded on CIDH piles supported reinforced concrete abutment walls.

Pedestrian Bridge/Park Improvements Moraga, CA
Lead engineer for investigation, design, permitting, and construction observations for a new 140 foot long pedestrian bridge at the Moraga Commons Park. Completed the geotechnical investigation for new bridge abutments, and alignment of new pathway linking to existing park. Geotechnical investigation included drilling of exploratory borings, laboratory testing of soil samples, and mapping of the creek banks. Design work included preparation of plans, specifications, and construction estimates. Responsibilities also included coordination of all permitting with the California Department of Fish and Game and the Regional Water Quality Control Board.

Alameda Point Bay Trail Alameda, CA
Provided geotechnical engineering and pavement design services to the East Bay Regional Park District for development of the 2,500 foot long Alameda Point segment of the Bay Trail. Also provided geotechnical engineering assessments of existing conditions and made recommendations for pavement structural sections for the new portion of the Bay Trail between the Alameda Park and the old marina located east of the intersection of West Hornet Avenue and Ferry Point in Alameda, California.

SF Bay Trail Carquinez Scenic Drive Port Costa to Martinez, CA
Project manager for geotechnical investigation, geologic mapping, value engineering, and Caltrans geotechnical design and materials report for the construction of a 1.6 mile segment of the San Francisco Bay Trail. The work was completed as a subconsultant on behalf of the East Bay Regional Parks District. The geotechnical investigation included 47 borings using hollow stem auger and wireline rock coring techniques. The project included over 40 remedial stabilization measures in areas of embankment creep, landslides, and upslope raveling consisting of soldier pile and wood lagging regaining walls, debris walls, stabilization piles, and geogrid-reinforced subgrade.

St. Mary's Road Landslide Repair Lafayette, CA
Project engineer for landslide repair project below St. Mary's road. Completed a geotechnical investigation, prepared calculations, and developed plans, specifications, and an engineers estimate to stabilize the slope below the roadway The repair consisted of a 6 ft tall soldier pile and wood lagging retaining wall with a 24 ft tall 1.85H:1V (horizontal: vertical) geogrid-reinforced embankment above to backfill the zone of depletion left by the landslide. Construction administration services were also provided.

Delta De Anza Trail Concord, CA
Project engineer for geotechnical study and report for design of a new 3,860 foot long trail section with a city park and along the top of a USACE certified levee. The geotechnical investigation completed for the project included drilling of 10 borings, laboratory testing, geologic mapping, and preparation geotechnical and pavement design recommendations.

Claremont Avenue Slope Stabilization Oakland, CA
Provided civil and geotechnical design services to stabilize Claremont Avenue after two landslides occurred below the roadway. The repair consisted of cast-in-drilled-hole concrete stabilization piles connected at the top with a concrete pile cap and curb.

Pleasant Hill Road Cut Slope Stabilization Lafayette, CA
Project engineer for the embankment stabilization project constructed above the west side of Pleasant Hill Road north of Rancho View Road in Lafayette, California. Project included site visits and calculations, plans, and specifications for a soldier pile and wood lagging retaining wall that was constructed as part of this project.

Laguna Creek Emergency Culvert Repair Moraga, CA
Lead design engineer for a geotechnical investigation and preparation of PS&E for repair of a 9 foot diameter culvert inlet and outlet structures after the structures failed during a winter storm. The plans for the federally funded project consisted of removing and replacing the existing headwall, endwall, and wingwalls to their pre-disaster condition and the incorporation of rock slope protection placed on the creek bed to reduce the potential for undermining of the new structures.

Glorietta Boulevard Culvert Orinda, CA
Project manager for a geotechnical study and design of a trenchless replacement of 290 feet of collapsing 60 inch corrugated metal pipe culvert beneath a developed residential area. The geotechnical work included drilling and sampling of three borings. Design included development of plans and specifications for the trenchless replacement of the existing pipe, including preliminary design and layout of launching and receiving shafts.

North Lane Storm Water Mitigation Orinda, CA
Project manager for an ongoing geotechnical report and PS&E for an approximately 1,200 foot long, 60 inch diameter reinforced concrete pipe storm drain to convey storm water runoff from the west end of North Lane to San Pablo Creek. The downstream 400 foot portion of the storm drain will be constructed using trenchless installation techniques. The scope of work also includes preparing full PS&E for the trenchless portions of the project.

Pilot Tube-Guided Auger Bores Below I-880 Fremont, CA
Project manager and lead design engineer for twin culverts below I-880 to increase the storm water conveyance capacity of Laguna Creek. Completed geotechnical data and design reports for the trenchless portions of the project and provided civil and structural design services for the upstream and downstream concrete transition structures. The project design included advancing two 110 inch steel casings below the freeway using pilot tube-guided auger bores. The project was reviewed and approved by Caltrans.

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DAN PELUSO
Associate Engineer
California Civil Engineer No. 49562
California Geotechnical Engineer No. 2367

EDUCATION

M.S., Civil Engineering (Geotechnical), San Jose State University, 1987
B.A., Geological Sciences, University of California at Santa Barbara, 1983

ACCOMPLISHMENTS

Foundation Design Lecturer at Santa Clara University
Intro to Soil Mechanics Lecturer at San Jose State University

PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineers (ASCE)
International Society of Soil Mechanics and Foundation Engineers (ISSMFE)
American Council of Engineering Companies (ACEC), Director, Chapter Past President

REPRESENTATIVE EXPERIENCE

Disaster Damage Repair Design Region IX, San Francisco, CA
Geotechnical engineering review for design and construction of disaster-related damage repairs to public facilities. Assignment involved determining eligibility, construction cost estimation, familiarity with Title 44 (Fed. Code), liaison with FEMA management and public agency applicants.

Gerald Desmond Bridge Replacement Long Beach, CA
Geotechnical Engineer for on-going design/build replacement of the existing bridge at the Port of Long Beach. Geotechnical services include pre- and post-bid award design for the Shimmick-FCC-Impregilo Construction Joint Venture. The Main Span Bridge is a cable stayed bridge with a 1,000-foot long main span with back-spans of 500 feet long each. The bridge structures will be supported on CIDH pile groups. During the design stage, prepared preliminary and final foundation reports for main span and approach bridges and MSE retaining walls, directed completion of geotechnical deliverables, and regularly interfaced with the contractor and Caltrans.

Fresno SR-180 Braided Ramp Connections Fresno, CA
Lead geotechnical engineer at bid design stage, during the design phase, and during construction for the Fresno SR 180 Braided Ramp Connections Project, one of the first design-build demonstration project by Caltrans. As lead geotechnical designer for R&L Brosamer, a subsidiary of Walsh Construction, prepared bid design for this project. The project replaced an existing weave section on State Route 180 between State Route 41 and 168 in Fresno, CA. The scope of this project included constructing two new bridges, one existing bridge widening, approximately three miles of on-grade ramp connectors, and other associated work. The estimated project cost is approximately $40M.

Tasman Light Rail Extension Santa Clara County, CA
Project engineer for the geotechnical engineering of the West Extension of the VTA Tasman Light Rail Train. Extensive interfacing and coordination with other project design professionals, review agencies and VTA. Project included design for retaining walls, box culverts, shoring and dewatering specifications, bridge pile foundations, track bed foundation, bridge embankment construction and settlement monitoring.

West Dunne Avenue Widening Morgan Hill, CA
Project engineer for geotechnical investigation for widening of a portion of West Dunne Avenue extending from Monterey Road to Peak Avenue. The length of roadway to be widened is 2,500 feet and will accommodate 4 travel lanes plus a middle turn lane. The proposed improvements include new pavements, pavement overlays, retaining walls, curb & gutters, as well as other associated improvements. Coordination with traffic control and obtaining an encroachment permit were required.

Leavesley Road Widening at Highway 101 Gilroy, CA
Project management of geotechnical studies and construction monitoring for road widening and tieback retaining walls beneath existing overpass. Provided structures report and materials report in accordance with Caltrans standards. Work included 18 borings along Leavesley Road as well as within Caltrans ROW on the ramps and the existing bridge embankments, which required encroachment permit and traffic control. Design included tieback retaining walls adjacent to existing bridge abutments and new pavement section design. Project was reviewed by Caltrans.

Uvas Road Repair and Coyote Reservoir Road Repair Santa Clara County, CA
Geotechnical investigations, structural design, and preparation of plans and specifications for the County Roads & Airports Department for two road repairs entailing construction of soldier beam retaining walls on the outboard side of the roads. Analysis and design for the Uvas Road repair included 144-foot long soldier beam and precast concrete lagging retaining wall up to 8 feet high, subdrains and surface drainage improvements. Analysis and design for the Coyote Reservoir Road repair included 282-foot long soldier beam and precast concrete lagging retaining wall up to 9 feet high, subdrains, erosion protection and surface drainage improvements.

El Toro Water Tank Access Road Morgan Hill, CA!
Geologic and geotechnical study for evaluation of unstable edge of access road and design for stabilization of roadway. Conducted a geotechnical investigation of a landslide/gully complex threatening the City reservoir, and of landsliding threatening the sole access road to the (steel tank) reservoir. Developed innovative, cost-effective approaches for both tight-access problem areas.

Upper Llagas Creek Flood Protection Project Santa Clara County, CA
This project extends approximately 13.6 miles along existing creek channels and includes design of levees, floodwalls, and box culverts. The project will provide 100-year flood protection in the urban areas of Morgan Hill and San Martin as well as a 5-10-year flood protection in agricultural areas. The total estimated project cost is $95 million. Prepared a proposal jointly with URS Corporation for a geotechnical investigation, presented it to the Santa Clara Valley Water District and US Army Corp of Engineers, and negotiated the scope and fee. Coordinated and managed all field work that included more than 130 borings and 20 piezometers, which had to be accomplished in less than 6 weeks.

Felton Booster Pump Station Santa Cruz, CA
Geotechnical investigation for new Felton Booster Pump Station. Analysis included liquefaction and lateral spreading evaluation. Design included mitigation of significant lateral spreading and liquefaction-induced settlement hazards using compaction-grouting technique of ground improvement.

San Jose/Santa Clara Water Pollution Control Plant San Jose, CA
A Water Reclamation Project, Chemical Containment Structure and Engineering Building were part of a geotechnical study for a diversion structure and 10-foot-diameter, one-mile-long reclaimed water pipeline, which included characterization of soil and groundwater conditions along the pipeline alignment, and collection of companion soil samples for screening of potential hazardous materials. Geotechnical studies for chemical containment structure and engineering personnel building were also completed.

Mountain View Public Library Mountain View, CA
Geotechnical study for the City of Mountain View for a new 60,000 square foot public library, to consist of two stories over a basement parking level supported on shallow spread footings. Analysis included design for shoring, basement drainage, basement retaining walls and ancillary improvements. Investigation required extreme sensitivity to former cemetery burial sites adjacent to the building site.

Coyote Creek Outdoor Classroom San Jose, CA
Geotechnical study for the Santa Clara Valley Water District. The classroom encompasses land alongside Coyote Creek and includes a covered gazebo classroom and a platform overlooking the creek where students can study the stream's natural habitat. Design included creek bank stabilization for a maintenance platform.

Sunnydale Auxiliary Sewer Project San Francisco, CA
Geotechnical study for the extension of new sewer pipelines along Rutland Avenue and Schwerin Street installed by open cut stabilized with jet-grouting. The pipeline varies from 42-inch to 66-inch diameter. Performed field rising head permeability tests in the borings to characterize the groundwater conditions in the proposed tunnel profile.

Retail BuildingsHollister Wastewater Treatment Plant Expansion Hollister, CA
Provided geotechnical engineering support services for the City of Hollister Domestic Wastewater System Phase I Improvement project. The project included installation of 2,000 stone columns for mitigation of liquefaction potential. A Hilfiker retaining structure was also constructed as temporary support for a 27-foot deep excavation. Structures constructed or to be constructed include MBR Process Trains, MBR Membrane Tank, MBR Control Building, pre-treatment facilities, chemical building, chlorine contact building, operations building, and various pipelines and associated improvements.

Clayton Regency Water Pipeline Contra Costa Co., CA
Project manager and geotechnical engineer for a geotechnical investigation for a 3-mile-long water supply pipeline for a residential community east of Mt. Diablo in rural Contra Costa County, California. Field work included drilling 48 borings along Marsh Creek Road with highly variable soil/bedrock conditions, and requiring full-time traffic control. Investigation was performed to characterize subsurface conditions and assess excavatability of bedrock along the proposed pipeline alignment. Provided recommendations for excavation in soil and cemented sandstone bedrock, backfill material, compaction and pavement restoration.

Silver Creek Valley Country Club San José, CA
Project Engineer for earthwork design, landslide analysis, and foundation design in Neighborhoods 8, 9, 10. Performed field exploration, lab testing and slope stability analysis to evaluate several large landslides within the development. Analysis included evaluation of shear strength of fractured claystone extending to depths of up to 120 feet in slopes up to 200 feet high, to assist in modeling the geology for a computer slope stability analysis. Performed analysis of bedrock landslides as well as evaluation of earth flow complexes of varying ages. Work included geotechnical investigation and construction observation for a vehicle bridge over Silver Creek designed and constructed in accordance with Caltrans Standards. The bridge is supported on 14-inch driven precast concrete piles.

Pajaro Dunes GHAD Seawall Evaluation Watsonville, CA
Project engineer conducting evaluation of the existing seawall, conducted a risk and cost/benefit analysis and provided conceptual design recommendations that facilitated necessary modifications to the seawall. The Pajaro Dunes residential community is located along a narrow strip of land bounded by the Pacific Ocean on the southwest and by the Pajaro River on the northeast. Following several episodes of severe coastal erosion in the 1970s and 1980s, approximately 6,000 feet of rock revetment was constructed during the late 1980s along the ocean-side of the development. A fair amount of work has been done in terms of studies and engineering design for coastal protection works for the Pajaro Dunes development by other engineers, resulting in designs that could not be permitted by the California Coastal Commission.

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DAVE BUSCHECK
Associate Engineer
California Civil Engineer No. 57879
California General Engineering Contractor No. 749527
ACI Concrete Field Testing Technician Grade 1 ID No. 01141911
ICC-Certified Reinforced Concrete Special Inspector ID No. 8024511

EDUCATION

B.S., Civil Engineering, University of California at Berkeley, 1993

ACCOMPLISHMENTS

Twenty one years of experience as a consulting engineer
Ten years of experience as a general engineering contractor and five years in special inspection
House foundation retrofit, retaining wall, and drainage design and construction
Landslide, creekbank, and erosion control design and construction
Geotechnical investigations for custom homes and public works projects
Forensic engineering causation investigations
Cost estimation and value engineering services
Quality assurance and quality control supervision for field and laboratory testing and special inspection
Expert witness consultation, deposition, and testimony
Authorized continuing education provider for the State of California (earthquake distress analysis)

PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineers
American Concrete Institute
International Code Council

REPRESENTATIVE EXPERIENCE

New Library Construction Oakland, CA
Provided IOR (Inspector of Record) services for the new construction of a library. Project involved inspection supervision and documentation of all phases of construction as they relate to DSA (Division of the State Architect) jurisdiction. Work was performed under our on-call services contract with the City of Oakland.

Foothill Square Redevelopment Oakland, CA
Currently providing special inspection and engineering support services for a 14-acre shopping center redevelopment project. The project includes demolition of several pre-existing buildings and parking lots and renovation of the remaining structures. Other site improvements include new asphalt-paved parking lots, concrete flatwork, utilities, and landscaping. Ongoing special inspection services are also being provided for steel reinforcement, seismic holddowns, epoxied dowels, concrete placement, masonry construction, welding, and fireproofing.

Roadway Improvements Investigation Contra Costa County, CA
Performed subsurface exploration, geotechnical investigation, and construction observation for the repair of distressed sections of roadways within Mount Diablo State Park.

Highway Off-Ramp Widening and Realignment Orinda, CA
Performed subsurface exploration, field mapping, soils testing, engineering analysis, and preparation of a geotechnical report for the widening and realignment of a highway off-ramp off of Highway 24.

Right-Of-Way Improvements Oakland, CA
Providing on-going technical assistance and design services for the rehabilitation of several roadways throughout the city of Oakland in order to maintain the public right-of-way.

Slope Stabilization and Roadway Improvements Oakland, CA
Provided construction supervision of the repair of a roadway impacted by creekbank erosion. Project involved the installation of stabilization piers, reconstruction of the affected road surface, and installation of erosion control measures. Work was performed under our on-call services contract with the City of Oakland.

Slope Stabilization and Roadway Repair Oakland, CA
Provided construction supervision of the repair of a portion of Skyline Boulevard in Oakland impacted by a landslide. Project involved the installation of stabilization piers, reconstruction of the affected road surface, and installation of erosion control measures. Work was performed under our on-call services contract with the City of Oakland.

Sewer Rehabilitation Vallejo, CA
Provided quality insurance field and lab testing services for the rehabilitation of the sewer main on Mare Island. Work was performed under our on-call services contract with the City of Vallejo.

Infrastructure Improvements Oakland, CA
Provided geotechnical investigations and soils reports for new transit villages at the 7th Street and Coliseum BART stations in Oakland. The 7th Street project was performed under our on-call services contract with the City of Oakland.

Levee Geotechnical Investigation Fremont and Union City, CA
Provided project management and coordination of geotechnical investigations for the evaluation of levee systems for FEMA certification. Scope of services include coordination with public agencies, permitting, supervision of CPT and soil borings, and lab testing. Work was performed under our contract with Alameda County.

Stormdrain Improvements Newark, CA
Provided project management and coordination of a geotechnical investigation for the installation of a new 72-inch diameter reinforced concrete pipe under a major freeway. Scope of services include coordination with public agencies, permitting, supervision of subsurface investigations, coordination of environmental testing, and soils lab testing. Work was performed for Alameda County.

Stormdrain Improvements Oakland, CA
Provided project management and coordination of a geotechnical investigation for the design of a new culvert system under an existing roadway. Services included the analysis of various design alternatives. Work was performed for Alameda County.

Creekbank Restoration Moraga, CA
Engineer and general contractor for the repair of an eroded creekbank in a golf course by installing rip-rap fill stabilizing an existing modular block wall along the creekbank.

Creekbank Stabilization Diablo, CA
Engineer and general contractor for the stabilization of an eroding creekbank at the rear of a residential property along Diablo Creek. Work consisted of the installation of drilled concrete piers, steel I-beams, and wood lagging.

Creekbank Stabilization and Retaining Wall Construction San Pablo, CA
General contractor for construction of a 35-foot long, 6-foot high segmental concrete block retaining wall along a portion of Wildcat Creek.

Erosion Control & Drainage Improvements Pleasanton, CA
Engineer and general contractor for the installation of erosion control measures within an eroded bank along a natural drainage swale. Project involved the installation of rip-rap concrete sacks and concrete-lined v-ditches.

Erosion Control Contra Costa County, CA
Engineer and general contractor for the installation of erosion control measures within an eroded bank along a natural drainage swale.

Landslide Repair San Mateo County, CA
Oversaw the completion of a landslide repair that impacted four properties. Project involved permit coordination, design modification, and construction supervision.

Landslide Investigation Contra Costa County, CA
Performed watershed analysis and field mapping for the investigation of a large landslide that undermined a portion of a development. Work also included the location of subsurface drainage facilities and elevation mapping of existing lateral drains within the slide using innovative water measuring techniques.

Landslide Investigation and Litigation Orinda, CA
Provided estimation services for a legal case involving the potential impact of a landslide on an easement for an access driveway involving two properties. Project involved site reconnaissance, development of repair alternatives, development of cost estimates, depositions, and court testimony.

Landslide Investigation Oakland, CA
Provided consultation services for a legal case involving the cause and repair of a landslide impacting multiple properties. Project involved site reconnaissance, development of repair alternatives, and development of cost estimates.

Landslide Repair Mill Valley, CA
Provided investigative, design, and quality assurance services for the repair of a failed slope and retaining wall between two adjacent properties. Project also involved special inspection and testing.

Slope Stabilization and Roadway Repair Belmont, CA
Provided construction supervision and testing for the reconstruction of a roadway impacted by a landslide. Project involved the installation of stabilization piers and tiebacks through the slide area, and the rebuilding of the roadway. Work was performed under our contract with the City of Belmont.

Retaining Wall Repairs San Francisco, CA
Provided investigative, design, and quality assurance services for the reconstruction of failed retaining walls along "zero-lot" lines at multiple locations in San Francisco.

Replacement Retaining Wall Construction SF Bay Area, CA
Engineer and general contractor for the design and construction of dozens of retaining wall projects throughout the San Francisco Bay Area. Walls consisted of cast-in-place reinforced concrete, CMU, concrete modular block, and steel I-beam and wood lagging construction.

Drainage Improvements SF Bay Area, CA
Engineer and general contractor for the assessment and installation of drainage improvements at multiple home sites throughout the San Francisco Bay Area.

Landslide Repair San Benito County, CA
General contractor for the repair of an estimated 8,000 cubic yard landslide affecting two residences. Project included the installation of temporary dewatering wells and sheet piles, the use of soil treatments to help stabilize the repair, and the construction of a retaining wall.

Landslide Repair Hercules, CA
General contractor for the repair of a 2500 cubic yard landslide that occurred on an open space during the winter of 1996-1997. Provided design and construction services.

New Park Installation Pleasant Hill, CA
Engineer and general contractor for the grading and installation of over 5,000 feet of lined pathways through an olive orchard.

Drainage Culvert and Driveway Installation Martinez, CA
General contractor for the installation of a bridge over a drainage swale. Bridge consisted of corrugated metal plate arches and structural backfill. Project also involved the installation of a 500-foot long gravel-lined driveway.

Quality Assurance & Special Inspection Services SF Bay Area, CA
Provided quality assurance, special inspection, and testing services for the construction of custom homes throughout the San Francisco Bay Area.

EXHIBIT "B"

PAYMENT

1) The cost for services rendered by CONSULTANT under this Agreement shall be based on CONSULTANT's current hourly rates, attached with Exhibit A. Billings shall include the number of hours expended by each of the CONSULTANT's employees, plus reimbursables such as postage, delivery, reproduction, etc. Reimbursables shall be itemized on the billings. CONSULTANT shall provide an hourly rate fee schedule on an annual basis. Total payment for consulting services shall not exceed $50,000 per year.

2) Payment shall be made to CONSULTANT on a time and materials basis.

3) CONSULTANT shall submit invoices to CITY, Attention: James Paluck and CITY shall pay CONSULTANT within 30 days of receiving a proper invoice.

EXHIBIT "C"

GENERAL PROVISIONS

1) INDEPENDENT CONSULTANT. At all times during the term of this Agreement, CONSULTANT shall be an independent contractor and shall not be an employee of CITY. CITY shall have the right to control CONSULTANT only insofar as the results of CONSULTANT's services rendered pursuant to this Agreement; however, CITY shall not have the right to control the means by which CONSULTANT accomplishes services rendered pursuant to this Agreement.

2) LICENSES; PERMITS; ETC. CONSULTANT represents and warrants to CITY that CONSULTANT has all licenses, permits, qualifications, and approvals of whatsoever nature which are legally required for CONSULTANT to practice CONSULTANT's profession. CONSULTANT represents and warrants to CITY that CONSULTANT shall, at its sole cost and expense, keep in effect at all times during the term of this Agreement, any licenses, permits, and approvals which are legally required for CONSULTANT to practice his profession.

3) TIME. CONSULTANT shall devote such services pursuant to this Agreement as may be reasonably necessary for satisfactory performance of CONSULTANT's obligations pursuant to this Agreement. CONSULTANT shall adhere to the Schedule of Activities as described in their Executive Summary.

4) CONSULTANT NOT AN AGENT. Except as CITY may specify in writing, CONSULTANT shall have no authority, express or implied, to act on behalf of CITY in any capacity whatsoever as an agent. CONSULTANT shall have no authority, express or implied, pursuant to this Agreement, to bind CITY to any obligation whatsoever.

5) ASSIGNMENT PROHIBITED. No party to this Agreement may assign any right or obligation pursuant to this Agreement. Any attempted or purported assignment of any right or obligation pursuant to this Agreement shall be void and of no effect.

6) PERSONNEL. CONSULTANT shall assign only competent personnel to perform services pursuant to this Agreement. In the event that CITY, in its sole discretion, at anytime during the term of this Agreement, desires the removal of any person or persons assigned by CONSULTANT to perform services pursuant to this Agreement, CONSULTANT shall remove any such person immediately upon receiving notice from CITY of the desire of CITY for the removal of such person or persons.

7) STANDARD OF PERFORMANCE. CONSULTANT shall perform all services required pursuant to this Agreement. Services shall be performed in the manner and according to the standards observed by a competent practitioner of the profession in which CONSULTANT is engaged in the geographical area in which CONSULTANT practices his profession. All products which CONSULTANT delivers to CITY pursuant to this Agreement shall be prepared in a workmanlike manner, and conform to the standards of quality normally observed by a person practicing in CONSULTANT's profession. CITY shall be the sole judge as to whether the product of the CONSULTANT is satisfactory.

8) CANCELLATION OF AGREEMENT. This Agreement may be canceled at any time by the CITY at its discretion upon written notification to CONSULTANT. CONSULTANT is entitled to receive full payment for all services performed and all costs incurred up to and including the date of receipt of written notice to cease work on the project. CONSULTANT shall be entitled to no further compensation for work performed after the date of receipt of written notice to cease work. All completed and incomplete products up to the date of receipt of written notice to cease work shall become the property of CITY.

9) PRODUCTS OF CONSULTING. All products of the CONSULTANT provided under this Agreement shall be the property of the CITY.

10) INDEMNIFY AND HOLD HARMLESS.

a) If AGREEMENT is an agreement for design professional services subject to California Civil Code § 2782.8(a) and CONSULTANT is a design professional, as defined in California Civil Code § 2782.8(c)(2), to the fullest extent allowed by law, CONSULTANT shall hold harmless, defend and indemnify the CITY, its officers, agents, employees, and volunteers from and against all claims, damages, losses, and expenses including attorneys' fees arising out of, or pertaining to, or relating to the negligence, recklessness, or willful misconduct of the CONSULTANT, except where caused by the active negligence, sole negligence, or willful misconduct of the CITY.

b) If AGREEMENT is not an agreement for design professional services subject to California Civil Code § 2782.8(a) or CONSULTANT is not a design professional as defined in subsection (a) above, to the fullest extent allowed by law, CONSULTANT shall indemnify, defend, and hold harmless the CITY, its officers, agents, employees and volunteers from all claims, suits, or actions of every name, kind and description, brought forth on account of injuries to or death of any person or damage to property arising from or connected with the willful misconduct, negligent acts, errors or omissions, ultra-hazardous activities, activities giving rise to strict liability, or defects in design by CONSULTANT or any person directly or indirectly employed by or acting as agent for CONSULTANT in the performance of this Agreement, including the concurrent or successive passive negligence of the CITY, its officers, agents, employees or volunteers.

It is understood that the duty of CONSULTANT to indemnify and hold harmless includes the duty to defend as set forth in Section 2778 of the California Civil Code.

Acceptance of insurance certificates and endorsements required under this Agreement does not relieve CONSULTANT from liability under this indemnification and hold harmless clause. This indemnification and hold harmless clause shall apply whether or not such insurance policies are determined to be applicable to any such damages or claims for damages.

CONSULTANT'S responsibility for such defense and indemnity shall survive termination or completion of this agreement for the full period of time allowed by law.

11)PROHIBITED INTERESTS. No employee of the CITY shall have any direct financial interest in this agreement. This agreement shall be voidable at the option of the CITY if this provision is violated.

12)LOCAL EMPLOYMENT POLICY. The CITY desires wherever possible, to hire qualified local residents to work on city projects. Local resident is defined as a person who resides in Solano County. The CITY encourages an active affirmative action program on the part of its contractors, consultants, and developers. When local projects require, subcontractors, contractors, consultants and developers will solicit proposals from qualified local firms where possible.

As a way of responding to the provisions of the Davis-Bacon Act and this program, contractor, consultants, and developers will be asked, to provide no more frequently than monthly, a report which lists the employee's name, job class, hours worked, salary paid, city of residence, and ethnic origin.

13)CONSULTANT NOT A PUBLIC OFFICIAL. CONSULTANT is not a "public official" for purposes of Government Code §§ 87200 et seq. CONSULTANT conducts research and arrives at his or her conclusions, advice, recommendation, or counsel independent of the control and direction of the CITY or any CITY official, other than normal contract monitoring. In addition, CONSULTANT possesses no authority with respect to any CITY decision beyond these conclusions, advice, recommendation, or counsel.

14)EMPLOYMENT DEVELOPMENT DEPARTMENT REPORTING REQUIREMENTS. When the CITY executes an agreement for or makes payment to CONSULTANT in the amount of $600 (six hundred dollars) or more in any one calendar year, CONSULTANT shall provide the following information to CITY to comply with Employment Development Department (EDD) reporting requirements:

a) Whether CONSULTANT is doing business as a sole proprietorship, partnership, limited liability partnership, corporation, limited liability corporation, non-profit corporation or other form of organization.

b) If CONSULTANT is doing business as a sole proprietorship, CONSULTANT shall provide the full name, address and social security number or federal tax identification number of the sole proprietor.

c) If CONSULTANT is doing business as other than a sole proprietorship, CONSULTANT shall provide CONSULTANT'S federal tax identification number.

EXHIBIT "D"

INSURANCE REQUIREMENTS

CONSULTANT shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the CONSULTANT, its agents, representatives, or employees.

1) MINIMUM SCOPE AND LIMITS OF INSURANCE

a) Commercial General Liability coverage (occurrence Form CG 00 01) with minimum limits of $1,000,000 per occurrence for bodily injury, personal injury, products and completed operations, and property damage. If Commercial General Liability or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.

b) Automobile Liability coverage (Form CA 00 01 with Code 1 – any auto) with minimum limits of $1,000,000 per accident for bodily injury and property damage.

c) Workers' Compensation insurance as required by the State of California and Employers' Liability insurance, each in the amount of $1,000,000 per accident for bodily injury or disease.

2) INDUSTRY SPECIFIC COVERAGES

If checked below, the following insurance is also required.

- [X] Professional Liability Insurance / Errors and Omissions Liability in the minimum amount of $1,000,000 per occurrence.
- [ ] Pollution Liability Insurance in the minimum amount of $1,000,000 per occurrence
- [ ] Garage Keepers Insurance in the minimum amount of $1,000,000 per occurrence
- [ ] Fidelity / Crime / Dishonesty Bond in the minimum amount of $_____
- [ ] MCS-90 Endorsement to Business Automobile insurance for transportation of hazardous materials and pollutants
- [ ] Builder's Risk / Course of Construction Insurance in the minimum amount of $_____.

3) INSURANCE PROVISIONS

a) DEDUCTIBLES AND SELF-INSURED RETENTIONS. Any deductibles or self-insured retentions must be declared to and approved by the CITY. At the option of the CITY, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the CITY, its officers, officials, employees and volunteers; or the CONSULTANT shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

b) The general and automobile liability policies (and if applicable, pollution liability, garage keepers liability and builder's risk policies) are to contain, or be endorsed to contain, the following provisions:

i) The CITY, its officers, officials, employees and volunteers are to be covered as insureds as respects: liability arising out of work or operations performed by or on behalf of the CONSULTANT; products and completed operations of the CONSULTANT; premises owned, occupied or used by the CONSULTANT; and automobiles owned, leased, hired or borrowed by the CONSULTANT. The coverage shall contain no special limitations on the scope of protection afforded to the CITY, its officers, officials, employees or volunteers.

ii) For any claims related to this project, the CONSULTANT'S insurance coverage shall be primary insurance as respects the CITY, its officers, officials, employees and volunteers. Any insurance or self-insured maintained by the CITY, its officers, officials, employees or volunteers shall be excess of the CONSULTANT'S insurance and shall not contribute with it.

iii) Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the CITY, its officers, officials, employees or volunteers.

iv) The CONSULTANT'S insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

v) Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the CITY.

vi) The policy limits of coverage shall be made available to the full limits of the policy. The minimum limits stated above shall not serve to reduce the CONSULTANT'S policy limits of coverage. Therefore, the requirements for coverage and limits shall be (1) the minimum coverage and limits specified in this agreement, or (2) the broader coverage and maximum limits of coverage of any insurance policy or proceeds available to the named insured, whichever is greater.

c) ACCEPTABILITY OF INSURER. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII, unless otherwise acceptable to the CITY.

d) VERIFICATION OF COVERAGE. CONSULTANT shall furnish the CITY with original endorsements effecting coverage required by this Exhibit D. The endorsements are to be signed by a person authorized by that insurer to bind coverage on its behalf. The endorsements are to be on forms provided by the CITY or on forms equivalent to CG 20 10 11 85 subject to CITY approval. All insurance certificates and endorsements are to be received and approved by the CITY before work commences. At the request of the CITY, CONSULTANT shall provide complete, certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications.

e) SUB-CONTRACTORS. CONSULTANT shall require all subcontractors to procure and maintain insurance policies subject to the requirements of Exhibit D. Failure of CONSULTANT to verify existence of sub-contractor's insurance shall not relieve CONSULTANT from any claim arising from sub-contractors work on behalf of CONSULTANT.